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Multichannel NEWS International

THE WOR[illegible]S SOURCE FOR TV AND TELECO[illegible] SIS

MARCH 1999

Queen
For the Day

IP Telephony Becomes Cable's **"It"** Girl

ALSO INSIDE:

Mexico's Rollercoaster Company

Jewels on the River Nile

Annual Mideast Pay TV Program Chart

Rethinking India the Star TV Way

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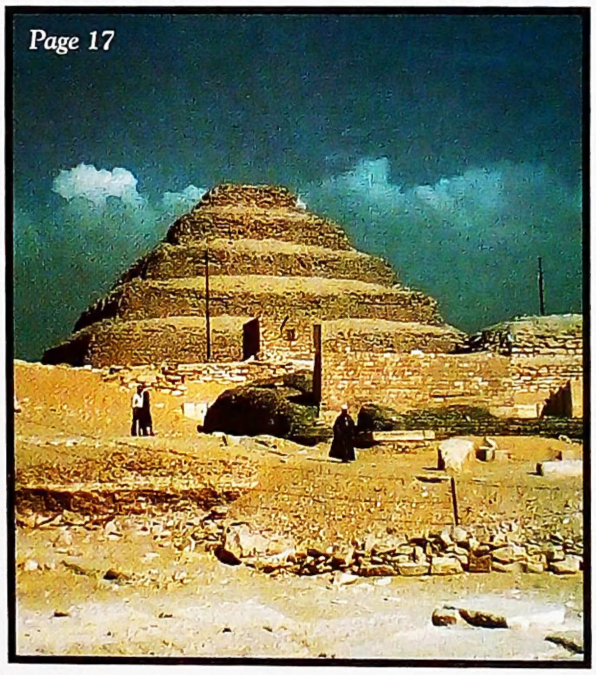
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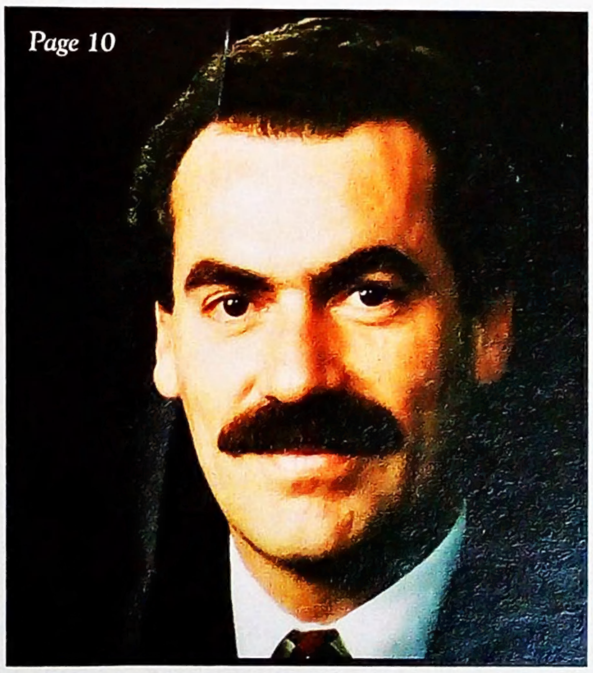
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WORLD **WATCH**

Playing the Wiz

BY JANET STILSON

Remember when Dorothy and her companions met the powerful, scary Wizard of Oz at the end of that slippery hallway in Emerald City? Well, occasionally I run into a media executive who attempts to cast himself in such inaccessible, intimidating ways, that I have to laugh to myself. In my mind, Toto always scurries behind the curtain to reveal the Wizards for the frail, human creatures that we all are.

Sometimes, however, I have to stop myself from playing the part of the Wizard, when some public relations official catches me on a day when I'm feeling really overworked and harassed. Such was the case about a month ago when "Dorothy" called to tell me about a little network called Quest TV that's working on a shoestring budget in Japan and Poland.

Exactly how slender is that string? Try a total investment of less than $US1 million since Quest first launched on DirecTV Japan last April. Its London-based CEO Charles Jackson and California-based COO Jim Hayden say that if they don't bear the added economic burden of launching in other markets, they could be cash-flow positive on a monthly basis by late this year.

Bear in mind that Quest, a sub-niche documentary channel that they describe as providing "adventure and toys for grown-up boys," is entirely programmed with acquired shows, and has so far avoided a few little costs like facilities (which its backers provide) and transponder leases. But everybody I talked to at the NATPE program market in New Orleans greeted those numbers and the projection with incredulity.

While Hayden and Jackson keep the details of their financial formula close to the vest, they claim that they've discovered an economic model for the digital age — in which super-niche channels can successfully incubate.

Regardless, at a time when programming groups like Discovery Communications Inc. can launch a sub-genre network in the blink of an eye, the window of time they have to gain a critical mass and a level of competitive quality is limited.

It is hardly surprising that they approached me with their tale, because they're looking for new investors and could stand some good publicity. Ulterior motives aside, I admire little independent channels like this one — or the Paris-based fashion channel FTV, or the Odyssey Channel in Australia — because the number of program services out there that are independent from large stables of channels is shrinking every month.

The number of program services out there that are independent from larger stables of channels is shrinking every month.

The decision by MuchMusic to join up with Cisneros Television Group for present and future Latino channels is one recent indication of that trend. Similarly, Hallmark Entertainment Network's decision to postpone indefinitely the launch of The Kermit Channel in Latin America is an indication of how independent programmers need to pick their shots very carefully — even when they have rich founders like Hallmark's Robert Halmi to count on.

While Quest's quest for success is a work in progress, I, for one, will be watching the men pushing the buttons behind its curtains to see if this little independent actually pulls it off.

Janet Stilson

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BLIPS ON THE SCREEN

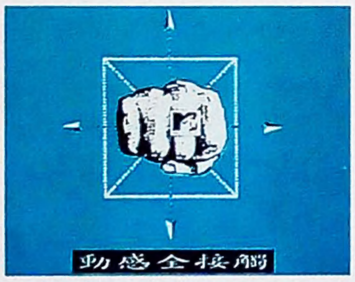
Battle of the Bands

HONG KONG

BY OWEN HUGHES

Trying to find the middle ground between the competing claims of Asia's rival music channels is akin to sheltering one's self between two sets of artillery battalions bent on smashing each other into small particles.

Take MTV Networks Asia president Frank Brown's assessment of his service's performance against rival Channel V: "We have a clear lead in India; we are close in Taiwan; we have a clear



lead in China and a clear lead in Korea. It's absolutely beyond dispute that we are ahead in Southeast Asia, and we've got parity in Thailand."

Meanwhile, Steve Smith, managing director of the News Corp.-backed Channel V retorts, "We are neck-and-neck in India and Taiwan; we are stronger in China; we are there or thereabouts in the Philippines, and we are stronger in Thailand."

The two channels have pretty much warred nonstop ever since MTV returned to Asia in May 1995. In a previous incarnation, it had been part of News Corp.'s Star Television pan-regional, Asian platform. But when the two companies couldn't come to terms on a new contract, Star created Channel V.

Now, MTV Asia has gone well past the point of claiming it has parity with Channel V. The service, which is owned by Viacom Inc. and Polygram N.V., argues that it's wiping the floor with its opponent in distribution, viewership and marketing. And there are few signs that peace will break out soon.

The first battle of the year was the race to stage the first-ever Chinese music awards on the mainland. Unfortunately for MTV, its own music awards in Beijing were postponed just 48 hours before showtime. Its officials said the cancellation was due to "procedural" matters, and others reported it had failed to get the right government permits. Meanwhile, Channel V's music-award ceremonies, held last month in conjunction with terrestrial station Shanghai Oriental TV, were judged to be a big success by the Chinese partner and local Communist Party officials. In fact, the officials held talks with Smith, Star TV chairman Gareth Chang and Shanghai Oriental TV about future collaborations.

As their war wages on, both channel groups are shuffling their senior executive ranks as part of a strategy to both increase their focus on regional channels and boost their marketing and promotional images. Sudanshu Sarronwala has been promoted from senior vice president of marketing and communications to senior vice president and managing director for MTV Southeast Asia, with Harry Hui mirroring the appointment at MTV China.

In January, Smith hired former record company and ESPN Star Sports marketing and syndication executive Ruuben van den Heuvel for the newly created role of business development officer. He'll oversee merchandising, Internet advertising sales and the development of compilation albums bearing the channel's name. Smith is also promising a thorough revamp of the mainly English-language Channel V International feed,

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Clashing Goals for European Soccer

LONDON

BY NICK MASTERS

Moves towards unification are dominating the thoughts of the European television industry. But rather than a Brussels-inspired single currency, it is the desire to create a unified, continental soccer tournament that is uppermost in many minds.

Soccer's status as the No. 1 sport in Europe has long been established. But its pivotal role in driving sales of pay TV services in a host of countries has led to an uproar over ambitious plans to create a Europe-wide league. While the administrators seem to have headed off the first frontal attack, they are also noting — with mounting alarm — the emerging power of Rupert Murdoch's soccer interests in Europe.

At present, top teams from all European countries play in one of three cup competitions backed by the local governing body, the Union des Associations Eu-

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Soccer and TV: a lively match in Europe

A Brazilian Bulldog

SÃO PAULO

BY MARCELO CAJUEIRO

Brazil seems to be just one long, gloomy tale these days, what with a devalued currency, soaring inflation and companies laying off workers in droves. But there is one company bucking the trend, and expanding its staff to 1,100 people from a mere 15.

The company is TV Cidade, a consortium specially formed to bid in Brazil's pay TV-licensing process. It has emerged as one of the winners so far, bagging 12 new concessions. Many will watch whether TV Cidade can become a new force in an industry dominated by two giants: Globocabo, owned by top Brazilian broadcaster Organizações Globo, and TVA, part of the Grupo Abril publishing empire. Due to financing limitations, both groups have so far bowed out of the licensing race.

KARMAN

Foreign investors have given the TV Cidade train much of its steam as the real, Brazil's currency, tumbles. Since mid-January, when it was allowed to float, the real has lost about half of its value against the U.S. dollar. "The devaluation of the real did not affect us directly. We have foreign partners, and most of our resources are in [United States] dollars," says Silvia Jafet, TV Cidade's programming director.

Indeed, two-thirds of TV Cidade's working capital comes from United States investors. They are the Dallas-based private investment firm Hicks, Muse, Tate & Furst Inc.; investment fund

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Telephony's Debutante

By Hank Hogan

IP telephony is seen as a sexy future revenue stream. But, for now, there are plenty of glitches to work out.

EVERYBODY SUDDENLY SEEMS TO BE TALKING about talk, specifically long-distance telephony. But it's not ordinary telephony that has everyone excited. It's the latest technological marvel, Internet-protocol (IP) telephony, that is the subject of so much attention. Sometimes called voice-over-IP (VOIP), this technology competes against the century-old, circuit-switched technique that is at the heart of the world's existing public-switched telephone networks (PSTN).

For cable and satellite operators, IP telephony holds a great deal of promise and peril. The promise lies in new revenue streams by offering to homes and businesses new services such as telephony coupled with high-speed data. The peril is that the technology still has some significant details that need working out, such as simply getting equipment from different vendors to work together.

But cable and satellite operators won't face these problems alone. It's a challenge for all telecommunications companies.

"Over a period of time, there will be quite a significant migration from circuit-switched traffic networks to IP networks," asserts Stewart Anderton, a senior consultant with London-based consultancy Ovum Ltd.

Ovum's just-released report, *IP: The Impact on Telco Services and Revenues*, details this migration. Starting from a worldwide total of about $US2 billion in 1999, Ovum's projections put worldwide IP revenue at more than $US60 billion by 2005. In North America alone, IP traffic will be worth nearly $US30 billion by that time. Western Europe will be about half that.

Based in South San Francisco, Calif., the market research and consulting firm Ryan Hankin Kent Inc. (RHK) also tracks IP telephony. Although RHK is not as optimistic as other forecasters, the firm still sees significant growth in IP-voice services. RHK says there were about 500 million IP-voice minutes transmitted in the United States in 1998. By 2002, RHK projects that this IP-voice traffic could soar to 70 billion minutes.

And consulting firms aren't the only ones that are betting that IP telephony will take off. AT&T Corp.'s $US48 billion buyout of Tele-Communications Inc. (TCI) is, in a way, a vote of confidence that VOIP is a technology to be reckoned with.

"AT&T has very clearly signaled that it will get into [cable] telephony, and it probably will be IP-based telephony," notes John Ryan, principal at RHK and its chief analyst.

There is already a small clutch of companies that provide IP-telephony services. Among them are New Jersey-based ITXC Corp. and Zephyr Telecommunications Inc., as well as New York's Delta Three, a subsidiary of RSL Communications Ltd. The firms' networks provide IP-telephony transmissions to a wide variety of countries, including Poland, Russia, the Czech Republic, Germany, the United Kingdom, Mexico, Brazil, Argentina, South Korea, China, the Philippines, Japan and the United States.

It's no wonder that VOIP-related equipment and service announcements continue to pour out from such vendors as Motorola Inc., Nokia IP Telephony (formerly Vienna Systems Corp.), Intel Corp., Com21 Inc., Broadcom Corp., 3Com Corp., and 8x8 Inc.

There is one basic reason for the interest telcos, cable operators and others hold in IP telephony. It's expected that, ultimately, IP telephony will be a less expensive way to carry voice traffic than the traditional circuit-switched approach. It's estimated that, eventually, the cost of implementing VOIP will be half that of implementing circuit-switched voice. Ovum predicts that IP telephony, along with regulatory changes and more competition, will cut the cost of international calls by a factor of five over the next 10 years.

In circuit-switched technology, every phone call is transmitted over an actual circuit. There is a continuous, open connection from point A to point B. For the duration of a voice, fax, or data call, nothing else can use the reserved bandwidth or other network resources.

In an IP-based approach, traffic is first parceled out into tiny chunks of data. These data packets then travel from point A to point B, intermixing with other packets that are traveling over the same physical wire. Each packet contains routing information that sends it to a final destination where the original traffic is reassembled.

While circuit-switched technology has proven very capable of handling voice traffic for well over 100 years, it's not every efficient. That's because telephone conversations, by their nature, don't completely fill up those circuits. "If you see the utilization pattern for this kind of bandwidth, you'll see that there are a lot of areas where you could really have stuck in more traffic. But circuit-switched technology does not allow you do that," explains Lov Kher, general manager for Lucent Technologies Inc.'s PacketStar Internet Telephony Solutions products.

"In the case of packetized technology, for the same circuit, there would be many different packets that would be flowing, thereby stuffing more and more into the same kind of a virtual circuit," he adds.

Besides allowing for more traffic, IP has some other advantages. For one, it is carrier-agnostic. As long as there is a valid IP-software stack to manage the underlying physical medium, packetized information can run over copper or fiber optic cable, or be transmitted by terrestrial wireless technology or satellite. Therefore, software and systems can be developed that will work no matter what the actual transport medium is.

Another advantage is that with the growth of data traffic, carriers will increasingly find it more and more compelling to merge everything into one transport mechanism. IP is rapidly becoming the preferred data protocol. By switching voice to IP, carriers can combine all traffic into a single stream that is managed by a single technology.

But before you pick up a phone to order IP telephony, there are a few problems to resolve.

The first of these challenges is that IP was originally developed for the Internet and data traffic. Typically, such data consists of fairly large files, with little real-time interaction between the sender and receiver. If the packets arrive out of order, there's a slight delay in the reassembly of the data. However, unless the delay is significant, that's not a problem. If a packet gets lost along the way, it can just be resent. That slows reassembly, but again, it's not a problem unless the delay is significant.

For files that measure megabytes in size, a pause of several seconds is hardly noticeable.

Such is not the situation when two people are conversing. Voice traffic is characterized by small amounts of data that are fleeting in time, and there's also a great deal of interaction between the parties.

"Voice is very unforgiving. You can't reassemble packets at the other end and have them all mixed up," remarks Dan MacDonald, vice president of marketing for Nokia IP Telephony in Kanata, Ontario, Canada.

In addition to the conversational jumble that the rearranging of packets would lead to, the loss of packets would drop out parts

of words. The latency, or the delay added by the system itself to the arrival of the data, can also be a problem for IP telephony. According to MacDonald, latency needs to be in the 100-millisecond, or one-tenth-of-a-second, range. That's the point at which the human ear starts to recognize delays. In some instances, the packetizing and reassembly of speech alone can add more latency than that.

This is all part of the quality of service (QoS) offered by the carrier of the phone call. Consumers will judge IP telephony inferior to standard telephony if the QoS is less than what they are used to.

There are two ways to solve QoS problems. One is a brute-force method, which over-provisions bandwidth. With a big enough data pipe, packets can flow freely, without encountering congestion or other QoS killers. The second and more intelligent way is to allow packets to have different priorities, so that voice data is routed ahead of other traffic.

For cable operators, the good news is that they have plenty of bandwidth.

The difficulty is that it is shared bandwidth. So if a data user starts downloading a huge file, the transmission can suck up available capacity and leave telephony users speechless. There are ways to solve this. One technique segregates data traffic from voice traffic, and is being pursued by cable-modem makers Com21, Motorola and others.

"You can have … essentially different virtual circuits into the same cable modem. One for data and one for voice."

— Buck Gee, vice president of marketing, Com21

"You can have, in fact, essentially different virtual circuits into the same cable modem. One for data and one for voice. Each virtual circuit has a separate quality-of-service control," says Buck Gee, vice president of marketing for California-based Com21.

While such methods solve the QoS issues from the subscriber to the headend, the situation becomes more difficult beyond that. The Internet is a network of networks, a conglomeration of many public and private-communications networks. Therefore, there is no central authority to juggle priorities.

What's more, standard IP has no provisions for assigning priority to individual packets. All it takes is poor QoS somewhere along the transmission chain to lower overall QoS. Given the conditions of the Internet and standard IP, it's virtually impossible to guarantee QoS using the public Internet.

That's why experts think most of the growth of IP telephony will be over private networks.

But that brings up another issue. For such an approach to work, VOIP must flow from one network to another. That means equipment from different vendors must be interoperable, and that is a problem.

ITXC lays claim to the largest ex-

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Forecasting IP-Telephony Growth

North American Voice Traffic

Year	Total Voice Minutes	IP-Voice Minutes
1998	691 billion	0.5 billion
2002	1137 billion	70 billion

Source: Ryan Hankin Kent Inc.

North American IP-Voice Revenue

Year	Revenue
1999	$US0.1 billion
2004	$US1.2 billion

Source: Forrester Research Inc.

Worldwide IP-Voice Revenue

Year	Value
1998	$US1.08 billion
2003	$US23.4 billion

Source: International Data Corp.

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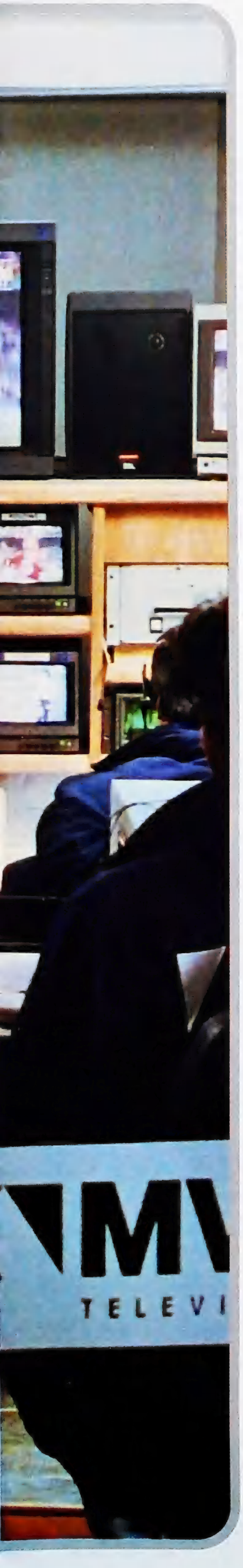
MVS' virtual studios in Mexico City.



Dial MVS for Mission

True to form, Mexico's MVS is pioneering major changes within the company — and the industry.

By Jo Dallas

THOSE WHO WITNESSED THE LAUNCH of Mexico's MVS Multivisión systems company back in September 1989 are not likely to forget it. Huddled in the studios to watch news anchor Pedro Ferriz de Con report on President Carlos Salinas' state-of-the-nation address, the assembled couldn't have been more proud. But suddenly, like a bolt out of the blue, they realized a comical certainty: probably no one but themselves were watching the transmission. The only people with the equipment to pick up the telecast were standing right there in that room.

The talent and camaraderie in evidence that day went on to create one of the world's largest wireless-cable operations — one that's also renowned as a David that successfully went up against Mexico's TV Goliath, Grupo Televisa S.A.

But the high-flying MVS has encountered lots of bolts out of the blue in recent times. Its chief pilot, Ernesto Vargas Guajardo — at one time one of the most articulate and frequent speakers on the international-conference circuit — has taken a lower profile in the industry. He's had to deal with a heavy load of problems, as the company faced a currency catastrophe, subscriber defections, scotched plans for an initial public offering — and goals that were much too ambitious, in the opinion of some. In recent times, the company has scaled back its interest in extending its power beyond Mexico's shores through program channels and the DirecTV direct-to-home platform.

However, Vargas and his four brothers, who collectively run Multivisión's parent company, MVS Comunicaciones, are avoiding a tailspin by moving into some uncharted territory. With the same creative vision that inspired their father Joaquin to create a restaurant business called Wings out of a defunct airplane, Vargas is now focusing his attention on a controversial a la carte programming strategy.

But that maneuver is not the only wild card in MVS' hand, according to Miguel Noriega, a partner at Hicks, Muse, Tate & Furst Latin America. This is the high-profile, Dallas-based private-investment company that two years ago invested in MVS, part of its growing pile of Latin American media assets.

"We are in negotiations to re-shape the company," Noriega reveals of MVS. Bound by confidentiality agreements, Noriega remains tight-lipped on just what lies behind his statement. And his refusal to be baited on the issue is as solid and unbending as the polished mahogany furnishing Hicks, Muse's elegant offices in Lomas, an upscale district of Mexico City. What he does divulge, though, is that this re-shuffle is in a way a continuation of a reorganization ushered in when Hicks, Muse bought a 23 percent stake in MVS in 1997.

The decision to separate the Vargas' restaurant business from the media assets came around that time. The media sector now falls under MVS Comunicaciones and includes radio stations, a telemarketing and advertising business, an Internet service, TV production and post-production facilities within the Telerey unit, wireless systems in eight cities, its own program channels and joint ventures with panregional programmers such as USA Latin America.

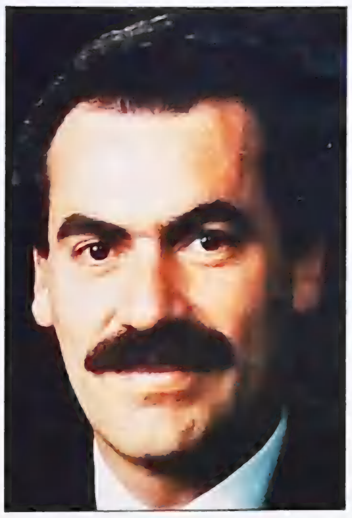
Multivisión is just one chunk of those assets. But the spotlight is more keenly focused on it now because the wireless operation has relinquished some of its control over the Latin American version of DirecTV.

Hughes Electronics Corp. always had a majority stake in Galaxy Latin America (GLA), the consortium that owns DirecTV in the region. But its control increased when it bought MVS' 10 percent stake in the panregional platform and upped its equity in the Mexico-specific operations late last year. To reflect this power shift, GLA's director of programming and promotion, Alberto Ennis, last year became the head of DirecTV Mexico. He isn't just some foreign import, but a native of Mexico and a former general manager of Multivisión who helped Vargas build the wireless business from scratch.

Multivisión is at a much different stage now. "Re-ordering the pieces," is how Vargas explains his present pay TV mission, as he sits in his country-manor-style office furnished with plush drapes, chandeliers and gilt-framed art. The roar outside of the major Mexico City artery, Periferico, hardly impinges on the hushed, business-like atmosphere within the corporate womb. Certainly, in wireless there is a job to do. Ernesto frankly admits that its official subscriber base of 450,000 is just a little bigger than it was before the 1994 peso crash.

"We would like to get more involved in content, but not in today's economic conditions."

— Ernesto Vargas Guajardo, president, MVS Televisión



But that growth must be put in perspective. Last year, Multivisión lost an average of 10,000 subscribers per month due largely to rival cable and DTH platforms. But it was able to make that up, and then some, according to Multivisión's vice president Ignacio Rodriguez.

Multivisión, though, says it has a solution. And it has a name for it: MVS a la Carta. The plan, which allows customers to subscribe to individual channels rather than entire packages, has rarely been tried because most operators fear that the drop in revenue per subscriber would far outweigh benefits from subscriber gains.

But Multivisión's argument runs like this: Go down-market and attract the C-class-and-below demographics by introducing a flexible, sliding scale both in price and choice. In that way you mop up a demographic that is not well enough off to defect to cable or DTH. And you keep them happy by offering them any number channels they want, as long as they spend a minimum of $US6.40 on programming per month, plus the $US2.50 monthly equipment-rental fee.

Multivisión executives argue that the company's rivals, with their rigid tiering structures, cannot offer any similar choice to consumers. It also benefits from having an almost entirely addressable infrastructure, with the decoder boxes paid for.

Rodriguez says the results speak for themselves. He claims the company is now hitting plus signs, adding between 6,000 subscribers and 7,000 subscribers a month. Like a well-weeded garden, most of those that were likely to defect have gone, he claims. The churn rate has been reduced to between 2 percent and 2.5 percent per month, down from last year's monthly rate of between 5 percent and 6 percent.

The a la Carta idea is not entirely novel, considering that Multivisión has pushed the concept with various programming packages, like MVS 7, since 1991. MVS a la Carta was introduced back in 1997. But now, there's a big push to convert its entire subscriber base to the menu-style approach — or, in the case of premium movie channels, a "set-meal" approach.

"We are going to offer premium channels at very low prices," Rodriguez says. For example, Multivisión intends to offer three packages of movie channels, enabling subscribers to buy each package individually or all three packages combined. That would give subscribers nine channels for only $US16.90 a month. Multivisión hopes this will boost premium-channel penetration to between 30 percent and 35 percent over the next year, and to as high as 60 percent in two to three years. Today, penetration for HBO's movie channels stands at about 18 percent, while Cinecanal's penetration is about 10 percent.

With a pricing squeeze in two of Latin America's largest markets, Argentina and Brazil, there has been a tepid, if not hostile, reaction from some programmers to the entire concept. After all, many panregional programmers follow a strategy of selling their channels in bulk, that is, as part of a package. "[A la Carta] will take away from the bundling approach," says Jon Petrovich, president of Turner Broadcasting System Latin America Inc. "If you go cherry-picking you can't make your channels more valuable, because you do not have enough eyeballs to make it work."

Petrovich expresses the fear that a la Carta will simply not deliver the subscriber volume needed to make the financials work. Volume is needed to sell advertising and to launch new channels, which, in many cases, bow on the back of a programmer's existing channel distribution.

Rodriguez says that he, too, is concerned about volume, and anticipates a la Carta will increase the subscriber universe by 30 percent this year. But it is also about margins, points out Genaro Rionda, CEO of Latin American Pay TV Service (LAPTV), which owns movie channels Cinecanal and Movie City. "It is not about getting subscribers for the sake of subscribers, but how much money I can get from each one," he says.

On that score, Multivisión has certainly seen a decline. Revenue per subscriber dropped from about $US20 to $US25 in 1994 to $US15 in 1998, according to one source within the company. Those figures are reflected in the overall revenues garnered from subscription fees, advertising and programming sales, which fell from $US200 million to $US140 million over the same time period.

As for its DirecTV investment, MVS will also have to keep a watchful eye. After all, it is at a two-to-one disadvantage to its sole rival Innova S.A., the Mexican unit of the panregional DTH platform Sky Latin America. At the end of last year, DirecTV had roughly 100,000 subscribers in Mexico versus Sky's 200,000 subscribers.

Hughes' buyout of MVS' stake in DirecTV's panregional operations and its increased control in Mexico have generally been welcomed by industry analysts. It proves Hughes' long-term commitment to the panregional industry, they say. But does it reflect poorly on MVS? Not really, is the industry consensus. Many say that MVS could not be expected to pony up the funds DTH requires, especially since those funds are substantially greater than originally expected. But perhaps it shows over-ambitiousness, says Rionda, who at the same time sings the praises of the highly entrepreneurial Vargas clan.

Rionda, a former MVS director of business development, has a lot of respect and admiration for the company's many innovations. But with DirecTV, he says, "they were overreaching, playing out of their league."

MVS at a Glance

WIRELESS CABLE
Wholly owned operations in eight markets

DTH
51 percent stake in DirecTV Mexico

TV PRODUCTION, POSTPRODUCTION AND UPLINKING
Telerey (wholly owned)

WHOLLY OWNED PROGRAM CHANNELS
MAS, general entertainment (Mexico)
Multicinema, U.S. movies (Mexico)
ZAZ, kids (Latin America)
Multipremier, independent movies (U.S. and Latin America)
Cinelatino, Latino movies (U.S. and Latin America)
MVS, program guide (Mexico)
Pay-Per-View 1, 2 and 3 (Mexico)

PROGRAM CHANNEL PARTNERSHIPS*
USA Network (Latin America)
Antena 3 International (Latin America)

* Involve no equity, only revenue sharing

Despite past ups and downs, MVS keeps on trucking.

There are much sterner critics, who for that reason choose to make their comments anonymously. "MVS is a cautionary tale. If you overreach, you have to take a step back. Ernesto [Vargas] was like Napoleon; he was opening out on too many fronts. But if you want to conquer, you have to do it well and then go on to the next thing," says one industry consultant. "They had no business in investing in DirecTV ... If you are a small fish, you should play in the small-fish pond."


DirecTV's Mexico City broadcast dishes. MVS owns 51 percent of the local operation.

Hicks, Muse's Noriega does not mince his words in his response. "Yes, [MVS] overstretched themselves. But everybody has a function in life. Theirs was to create a local platform for Hughes," he says. "Now it is a different game. [MVS] said, 'Here is what we have created together. Go take it to the next level.'"

Noriega believes those attributes show the maturity and professionalism of the MVS team. "They could have had the attitude, 'I am a macho. I can take on the big, fat gringos.' But no, they were practical," he says.

But weren't they over-stretching themselves? Noriega agrees that MVS was over-ambitious, but that the company received dividends for those efforts. In the end, it paid off, he concludes.

MVS did not lose out when it sold back its stakes to Hughes, says Vargas. On the contrary, it was a very nice deal. Vargas, an energetic man whose outgoing personality lends itself to his high-profile position within the company, is perhaps the last person to deny that MVS has had to scale back on ambition at times.

Through Telerey, MVS had plans at one time to get much more heavily involved in programming production, including one-time plans to produce a Latino-wide pay TV superstation. The idea was to be modeled somewhat on Televisa's telenovela-packed broadcast channel Canal de las Estrellas (Canal 2). But today, the construction of new Telerey production studios is on hold, Vargas says. "We would like to get more involved in content, but not in today's economic conditions, where the number of subscribers is not growing fast enough for us to cover our costs, and there is a saturation of channels [region-wide]," he explains.

That follows another programming pullback. MVS held a 22 percent stake in LAPTV and had exclusive rights to Cinecanal in Mexico. But with Mexico's deep recession in 1995, the company was unable to pay the high per-subscriber fees to maintain those rights. It also didn't agree with the way LAPTV's Hollywood-studio backers wanted to migrate Cinecanal to premium from basic, leading MVS to sell out of the partnership, says Rionda.

Too big for their boots, or savvy deal-makers? They are two sides of the opinion coin spun about MVS today. But what everyone can agree on is that the Vargas family over the years has proved itself a fighter in business.

The now-retired founding father of it all, Don Joaquin, began humbly enough several decades ago with a gas-station business and trading in spare airplane parts — key elements in the family legend. Working his gas station over by Mexico City's international airport, Don Joaquin one day accepted an offer to buy one of the planes parked in a runway, recounts Rionda, who has known the Vargas family since he was young.

Dragging his newly purchased hunk of metal over the road to his gas station in the dead of night, Don Joaquin's only thought was to disassemble the carcass and sell off his booty. But when his gas station customers kept on asking for plane tours, he saw the opportunity to make a little money on the side, selling soft drinks, potato chips and the like. Boom: a homegrown theme-restaurant business was spawned.

From there, the idea of programming production grew with the need to make training videos for Wings staffers. Don Joaquin also pioneered FM radio in Mexico by asking the Communications Ministry for frequencies no one else was interested in at the time, continues Rionda. He showed a similar vision in wireless by being the first to apply for licenses for Mexico's 10 biggest cities, Rionda adds.

The "firsts" didn't stop there. MVS introduced the idea of exclusive agreements with program networks in Mexico with such companies as Turner and ESPN International. It helped found Cinecanal, one of the first panregional movie channels with Hollywood product, and it helped launch the first panregional DTH platform. And then there's the a la Carta scheme.

It is not always easy for outsiders to enter such an entrepreneurial, headstrong family business. But, Noriega says, the company was a natural for Hicks, Muse.

Here, perhaps a little pre-nuptial history would help. Noriega explains that one of Hicks, Muse's main goals is institutionalization, or maximizing shareholder wealth. Part of that will eventually involve priming MVS for an initial public offering. Those with a sense of history will remember that the company toyed with the idea of an initial public offering prior to the peso crash. After the currency tumble, MVS revisited the idea, but dissatisfied with the value placed on the company, it opted to hitch up with Hicks, Muse instead.

Noriega notes that there are some decided advantages to linking up with a private investor. "You get rid of the pressure to please Wall Street, and instead do what is strategically smart for the business, and that's about sacrificing the short- for the long-term," he says.

Now, Hicks, Muse wants to work its magic to fatten up the MVS goose, so that when the time comes to go to market, it will lay golden eggs that are much larger than ever before dreamed of. Overambitious, or a smart move? Take your pick. ■

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Star Television is pulling out the stops in India with a whole new game plan to make its business pay off.

Luring India

IF EVER THE WORLD OF INDIAN pay television earned the reputation as a living, breathing soap opera, it certainly was in the month of January. The government put plans for the launch of direct-to-home platforms on a much faster track when it announced that it would spin off DTH regulations from its Broadcasting Bill. Shortly thereafter, the local press reported that Star TV was linking up on a DTH joint venture with a satellite manufacturer partially owned by Hughes Network Systems. Industry rivals reacted with shouts of "favored treatment," while politicians screamed "cultural imperialism." The government then backpedaled furiously, announcing the formation of a five-member ministerial committee to look into the "sensitive subject." Once again, DTH was left in a state of flux.

Such roller-coaster rides are becoming commonplace for the senior management of News Television India Ltd. (NTVIL), which runs Star TV's Indian operations. Ever since the Hong Kong-based, satellite-programming group was bought by Rupert Murdoch's News Corp. in 1993, Star's existence in India has waffled between unguarded optimism and cautious pessimism. Perhaps the mood swings wouldn't be so great if the market weren't so important.

While Star is spread far and wide across Asia, with an ever-expanding slew of channels targeting specific markets, India holds a special place in its heart. With the Southeast-Asian economies in tatters, both China and India are seen as two of the most potentially profitable markets.

That's why News Corp. has invested an estimated $US500 million in Indian program networks, cable systems, the planned DTH platform and related operations over the last six years. That figure comes from Iqbal Malhotra, a former advisor to News Corp. and chairman of AIM, an Indian television-production company. He also says that News Corp. has lost some $US150 million in the market so far. Though News Corp. executives couldn't be reached to comment on that figure, a source close to the company confirms its accuracy.

Given the Indian market's gyrations and those losses, there's little wonder that Murdoch and crew have put together a revised plan with expectations of zooming into the profit zone by year's end.

"Murdoch is rethinking his India strategy," says Siddhartha Ray, chairman and managing director of the Indian media consultancy Stratcon. "After all, in the six years he has been here, he has neither got a market share nor profits from a country that has an estimated 250 million-strong middle class."

The new approach is essentially two-pronged. One part involves reformulating Star's DTH plans with new allies. The other part involves an overhaul of some moribund channels and the addition of some new ones, with the idea of mopping up a larger share of the country's ad spending.

Clearly, Murdoch's strategy for creating a DTH gold mine akin to his British Sky Broadcasting plc operation in the United Kingdom depends on obtaining government clearance for the platform. Spearheading the government lobbying efforts is Rathikant Basu, a onetime bureaucrat and currently NTVIL's dapper CEO. Despite the government's latest U-turn, Basu is hoping that it will follow up on its initial decision to spin off DTH regulations from the Broadcasting Bill, the passage of which has been long delayed. If DTH rules are detached, the ban imposed on Star's proposed platform way back in July 1997 by the United Front government will effectively be removed.

The optimism is seeping through to the troops. Urmila Gupta, NTVIL's executive director, comments guardedly, "Things are certainly looking more positive now than they did a year ago."

At least part of the positive attitude comes from Star's recently inked memorandum of understanding with Hughes Ispat Ltd., a joint venture between Hughes Network Systems and Ispat, a prominent Indian industrial group. Star and Hughes Ispat are expected to share an equity base of $US200 million on a 50-50 basis. And the deal also reportedly involves the provision of transponders for the DTH platform.

Basu doesn't confirm or deny reports of an alliance with Ispat. But industry sources say that if the DTH ban is lifted, Star will be in DTH mode within two months. That would give its project — dubbed Indian Sky Broadcasting — a definite edge.

Basu says that the platform will initially include about 40 channels, although exactly which channels those will be has yet to be determined. In the first year of operation, ISkyB will aim for a subscriber base of 1 million households, and charge a monthly subscription fee of 500 rupees ($US11.78).

But Star can't put on its party hat yet. The government's announcement of a five-member ministerial committee to look into DTH could delay things further. And it certainly can't rule out disruption from the competition.

Among those also waiting for the government's DTH greenlight is M. Shivashankaran, owner of the multi-million-dollar Sterling Computers, based in the south-Indian city of Chennai. He plans to beam a DTH platform via Insat 2E, a satellite the Indian government plans to launch.

Another potential threat comes from the Malaysian satellite company Measat Broadcast Network Systems Sdn Bhd. While the com-

By Mannika Chopra

Chandrakanta,
part of the programming
makeover at Star Plus

pany is weathering financial storms on its home turf — and although its previous DTH alliance with the Indian broadcaster Doordarshan has lapsed — Measat is reportedly still scouting for potential Indian partners.

Then there is the Modi Entertainment Network, a Mumbai-based media group teaming with Thai telecommunications tycoon Taksin Shinawatra for a possible slot on the Thaicom 3 bird.

But by far the biggest threat of all comes from Zee Telefilms Ltd. (ZTL) — a company in which News Corp., ironically enough, has an indirect stake. The chairman of that powerful programming group is Indian media mogul Subash Chandra, the object of Star's love and hate over recent years as it's tried to make the relationship work to its own advantage. There were big expectations that Murdoch and Chandra would actually deepen their ties by forming a more all-encompassing alliance involving a common DTH platform. But those discussions, which began last April, died on the vine a few months ago. (See sidebar, this page.)

Clearly, ZTL is now planning a rival DTH platform. The company's CEO and managing director Vijay Jindal does not confirm or deny reports of a possible tie-up with the American DTH platform EchoStar Communications Corp. or satellite manufacturer Loral Corp. Media analysts believe there's a strong possibility that, as the DTH race revs up, an alliance may be announced.

Star isn't just facing competition on the DTH front. The programming business in India is fraught with rivalry. There are upstarts like the three-year old Sony Entertainment Television (SET) to consider. That channel raked in ad revenue of Rs1.92 billion ($US45 million) in 1998, well above its internally projected figure of Rs1.8 billion ($US42 million), according to Malhotra. "Sony has become a close overall second to Zee in the Indian cable and satellite market, pushing Star into third place," chortles Kunal Dasgupta, the CEO of SET in India who has put the 1998 ad-revenue figure as high as Rs2.2 billion ($US52 million).

"Star's operations in India hope to break even this year, perhaps even in a month or two."

— Rathikant Basu, CEO, News Television India Ltd.

Star is reacting to the challenges by creating three — if not four — new regional channels and reinventing some existing ones. Within six months, Basu says, new channels in the Gujarati, Punjabi, Tamil and Bengali languages will debut, aiming not only at domestic viewers, but also at expatriate Indians in other countries.

"With the Hindi markets almost saturated, the regional channels are a definite growth area," says Basu.

ZTL is mounting a counteroffensive. It plans to start a gaggle of eight new channels, six of which will be regional and another two focusing on sports and music. "We will launch these new offerings within the next two months," Jindal says firmly.

The most notable facelift among Star's Indian channels has occurred at its flagship Star Plus network. Started in late 1991 as a channel for the up-market, English-speaking Indian, it became a talking point in a lot of chi-chi Indian homes. But despite its high profile, viewership figures for the channel were slipping.

Two years ago, Star's programming officials started expanding Star Plus' viewership base by introducing Hindi programs and even by dubbing, unsuccessfully as it happened, American soaps into Hindi. But the numbers still didn't add up. A survey commissioned by the channel in October 1997 revealed that viewership was steadily falling. "Star Plus was being talked about in the right circles, but the mass viewership was missing," says Bimla Bhalla, executive director of programming at NTVIL.

Last November, the channel underwent a complete makeover, going Hindi all the way. It introduced a combination of recently released theatrical films and reruns of popular Hindi mythological programs such as *Chandrakanta*, which first aired on Doordarshan, and new family dramas like *Saans*.

Viewers have reacted. According to A.C. Nielsen, Star Plus' ratings have zoomed from an average of 2.3 to more than 14 for its top primetime shows. Ad revenue has risen too. Without revealing exact statistics, Peter Mukherjea, vice president of sales and marketing at NTVIL says, "Primetime spot rates have increased ... leading to a 100 percent increase over last year's ad intake." That comment is corroborated by Ambika Srivastava, senior vice president of media at ad agency McCann-Erickson India Ltd.

Basu skirts any reference to falling ratings in discussing the need for the channel's facelift. Rather, he notes that Star's move to digital on the AsiaSat 1 satellite last June is making it possible for Star to create new channels. One of the channels in that digital mix, Star World, has effectively taken on Star Plus's old personality by scheduling English-language, Western product.

What Basu does not say is that the Hindi Star Plus will help fill an expected void when the DTH platform is created. Certainly, as things stand now, it's highly unlikely that Chandra would allow the very popular Zee TV channel on Star's platform — even though Star has ties to it through ZTL.

Star Plus is not the only channel that is being refashioned. So is music-video network Channel V, News Corp's joint venture with Sony Pictures Entertainment, EMI, BMG and Warner Music Group. Recently appointed general manager Steve Smith is overhauling the programming mix, and launching sub-channels in regional languages across India. For local programming, Channel V has allied itself with local software providers like the program-network group Sun TV.

Channel V plans four separate feeds for India. Officials at the local operation say they expect it to break even before the end of 2000.

The revamps are aimed not only at attracting higher ratings – and ultimately more ad revenue – but to also attract more operators to those channels that now charge subscription fees. Star Plus, Star Movies and Star News have become pay channels, and Star World is likely to follow.

Star executives calculate that the three already encrypted channels will garner revenue of Rs10 million ($US236,000) per month based on an average monthly subscription of Rs2.5 (US6 cents).

Arun Mohan, NVTIL's vice president of distribution, says 1,000 decoders have already been distributed to cable headends that serve 14 million cable homes. "With that," Basu says, "Star's operations in India hope to break even this year, perhaps even in a month or two, becoming profitable as India enters the second millennium."

If those projections become reality, it will be a hard-earned relief. The coming year will tell whether the new Indian road that Star has taken leads to riches or to a deadend. ■

All smiles at Channel V. Star plans to create separate versions of the channel for different parts of India.

The Deal
That Never Happened

Certainly, things might be easier for Star in India if it and Subash Chandra were moving in lock-step with channels and a DTH platform. Before talks broke off a few months ago, industry pundits expected them to announce the birth of a $US1 billion media monolith. In addition to a DTH joint venture, the agreement apparently would have merged channels owned by Chandra and some of Murdoch's Indian services into a single entity. This corporation would have greatly expanded the two companies' existing alliance that involves a partnership in Hong Kong-based Asia Today Ltd. which, in turn, owns Zee Telefilms Ltd. (ZTL)

In addition to the channels in the ZTL group today, the new company would have managed a DTH platform and all of Star's operations in India, controlling more than 10 channels that collectively have access to 22 million homes mostly in India, with others in the Middle East and Pakistan.

However, a terse press release in mid-January from ZTL on behalf of its chairman, Chandra, suggested that negotiations had finally broken down because of the lack of a proper evaluation of ZTL's net worth. "Ultimately, continuing the merger talks was not conducive to future business planning," concludes Ranjan Bakshi, vice president of communications at ZTL.

For Chandra, the alliance would have meant global financial and marketing clout; for Murdoch it would have reduced the headaches that are inflicted upon foreign media players in India.

ZTL's importance to both owners can't be underestimated. It reported a 40 percent increase in advertising revenue in the first three quarters of the current fiscal year. It has also boosted its income earned from program sales, commissions and other services by 32.6 percent.

— Mannika Chopra

CHANDRA

CAIRO AND BEYOND

In the world of Middle East pay television, all roads seem to lead back to Cairo.

In entertainment terms, Cairo, Egypt rules the Arab world. Only Cairo has the means to transform talent into legendary fame. Through movies and radio — at least until the mid-1960s — and more recently through TV, Cairo's singers, actors and musicians have held the Middle East in thrall of their skills.

From the 1940s to the 1960s, Cairo turned out some 50 movies a year, while the rest of the Arab world might have managed three or four. These movies, often musicals, steamy romances, stark melodramas and slapstick comedies, have formed the bedrock of any Arab's collective cultural understanding. The 2,000 or so accumulated films that survive now dominate Middle-Eastern entertainment.

But Cairo's influence extends well beyond those films. The city has been described as the "cultural cockpit of the Arab world." And for generations, it has been the center of Arab political life, thanks to the inclination of Cairo's inhabitants to resist any sort of authority. While there is plenty of political input from Beirut, Lebanon and Damascus, Syria, as well as Amman, Jordan and Jerusalem, Arabs traditionally turn to Cairo

BY CHRIS FORRESTER

Egypt TV's Nile-side headquarters

for news and political commentary on the day's events — wherever they have occurred.

The city's concentration of skills and influence are the reasons why Arab television is centered on Cairo. And there's little wonder that the old broadcast networks and new satellite channels based there are ramping up fresh programming and talent to satiate the Middle East's explosive demand for content.

Many of the new satellite channels are owned by oil-dollar-rich Saudi Arabians, for whom losses of $US100 million or more on a TV station are small change and part of a highly-charged culture that is fueled by a "my-investment-is-greater-than-your-investment" machismo.

Nevertheless, the state-funded Egyptian TV still wants a slice of the new satellite action. More than 30,000 people work on the 30-odd floors of the giant Nileside TV center, home of the Egyptian Radio and Television Union (ERTU) networks that are run as part of the Ministry of Information. Its four main terrestrial networks, plus regional channels, churn out about 800 hours of new TV entertainment a year in the form of drama, variety and series.

But directly across the mighty Nile River is another, somewhat smaller, TV complex. It was, until recently, the first floor of a vast restaurant, the *Omam* (Four Corners). The restaurant still exists and is as famous to Arabs as the Rainbow Room or the 21 Club is to New Yorkers. Diners can still eat their supper looking out over the Nile, but the restaurant's owner, Sheikh Saleh Kamel, has turned most of the property over to television. And from this converted room he is turning out between 12 hours and 14 hours a day of TV for the Arab Radio & Television (ART) direct-to-home (DTH) service.

The daily schedule is supervised by probably the hardest working production director on the planet Milad Bassada, a Canadian of Arab descent. In his daily mix are a five-hour magazine show, a game show, a music show and, arguably, one of the most fascinating call-in programs in the world. On one recent day, viewers called in with their suggestions on how the new season's schedule should be arranged. All the shows were written on magnetic tiles on a giant white board, with viewers becoming increasingly heated over the lineup, criticizing the shifting of this or that favorite show. Imagine U.S. broadcaster NBC or the British Broadcasting Corp. venturing into this sort of exercise.

ZILO

ART EXPANSION

But such antics are typical of a whole new breed of emerging pan-regional networks in the Middle East. Part entrepreneurial, part experimental and part imitative of television elsewhere, ART has launched seven pay channels and promises more. It is exporting its message around the globe with an ART-backed Arabesque bouquet transmitted over Europe, and with other ART channels covering the Americas, Asia and Australia.

ART is majority-owned by Sheikh Salah Kamel, and 30 percent held by Prince Alwaleed bin Talal – both immensely wealthy Saudis. The prince, a nephew of King Fahd and educated at California's Menlo College, is, perhaps, better known as the owner of Kingdom Holding Co., which has stakes in blue-chip companies like Citigroup Inc., Motorola Inc., Apple Computer Inc., News Corp. and Mediaset SpA.

Kamel and Alwaleed share a commitment to see ART deliver what they both call a "conservative" mixture of entertainment. Indeed, also present in the ART bouquet are Cartoon Network and Turner Classic Movies, which fit this bill perfectly. With their cartoons and safe movies, neither channel poses too much of a challenge to Saudi sensitivities.

Last year Sheikh Salah fell ill with heart problems, and spent some time at the Mayo Clinic in the U.S. Without his very hands-on supervision, ART seemed to lose its way, especially when under the control of his specially appointed executive board. Various reports have placed cumulative losses on the ART networks in the hundreds of millions of dollars. An ART insider claimed these losses are exaggerated, "and besides, these are not losses but investments in the future," he claims.

ART is hardly alone in banking heavily on pay TV's future. To see that, all one needs to do is travel a few miles along the desert road familiar to every tourist who has ever visited Cairo, and past the famous Giza pyramids. That's the location of Sixth of October City, a new town built on the desert plateau to alleviate some the chronic overcrowding suffered by Cairo's 12 million or so inhabitants.

The city was named to commemorate the day Egypt's army pushed Israel's forces back from the Suez Canal in 1973. And it is home to a gigantic new media production center, whose Hollywood-style studios and outdoor sets cover some 3 million square meters. Another group of 14 stages is currently under construction, a project of Sony Broadcasting and Norwegian conglomerate Kvaerner Construction, and due for completion in 2001.

Architect and chief engineer Sami Baddawi is the mastermind behind the construction, and says the media city is capable of producing 5,000 hours of TV and film programming a year. "It was not in our plan to have the smaller studios working now to their current level. But with such a huge demand from broadcasters and producers, we saw that we could immediately use these existing buildings," he says. Baddawi expects to have 13 studios active at the complex by the end of this month.

Demand is so strong that the complex is quickly moving toward profitability. "Our plans called for the venture to be profitable, or at least at a break-even stage, within six years. We can now reduce this six-year period to closer to two years or thereabouts," says Baddawi.

Across a corridor at Sixth of October City is pay TV platform Orbit Radio & Television's four-studio facility. It has other studios and its corporate headquarters in Rome, but is making a rapid transition to "get back to our market" according to CEO Alexander Zilo. "It's vital that we decentralize functions to the region," Zilo says. He is an unabashed admirer of Cairo. "There's a life to Cairo, a vibrancy to the town. I love it," he says.

Orbit, transmitting from Intelsat, is engaged in the most bitter of battles with ART, which transmits from the NileSat satellite, as the two Arabic-language pay TV platforms try to make headway. Neither makes much of an impact in terms of ratings numbers. Orbit claims more than 200,000 "viewing points," Zilo's terminology for residential subscribers plus hotel rooms and other forms of commercial distribution. ART publishes no subscription data, although regular

NileSat's digital-broadcast center


reports on ART in the Arab press suggest losses are rising far faster than subscription numbers, which may total less than 100,000.

RICHER NEIGHBORS

While Egypt has the production talent and mass audience, the much richer Gulf states represent the real commercial targets — and any prospects of profitability. Saudi Arabia, Kuwait, Qatar and the United Arab Emirates are all spectacularly wealthy from oil and natural gas deposits. All of these countries have their would-be media moguls. Orbit's empire is backed by the staggeringly wealthy Khalid family, owners of the Mawared business empire that holds a large stake in the Iridium World Communications Inc. satellite-phone system.

There are more. Kuwaiti money is behind another platform, Showtime, the bouquet of Western, mostly English-language channels transmitted from London and Dubai, U.A.E. Showtime has Viacom Inc. as a joint-venture partner, as well as Kuwait Investment Projects Co. (KIPCO), a diversified banking and investment company. The platform is headed by Peter Einstein, a long-time senior executive at MTV Networks, who was drafted into the Mideast venture in January 1997 when things had started to go sour.

In two years, Einstein has turned Showtime around in a spectacular fashion by focusing on the quality of service, reducing churn and boosting non-Western viewers' access to the bouquet.

When he started, Einstein said his target was 100,000 subscribers to the bouquet, which includes MTV, The Movie Channel, Nickelodeon and Paramount. At the end of last September — and ahead of the key winter buying season — the platform had more than 85,000 paying subs, an increase of 35,000 from the same period in 1997.

"Happily, there are lots of things that have proved to have been the right decisions, especially the subtitling of programs," says Showtime's senior vice president, Cliff Nelson. "Increasingly, our viewers are Arabic. And even though they may have much Western exposure, [from being] educated overseas, for example, their first language is Arabic."

Despite their obvious advantages, subtitles can be intrusive. And to help eliminate the problem, Showtime is expected to add a feature to its existing electronic-program guide (EPG) this month that will enable viewers to add or remove subtitles at will. But the whole EPG service holds particular significance to Nelson. He explains, "The EPG in this region is much more important than in Europe or the States, where program listings are plentiful. Here, they barely exist, and there's a real need."


Egypt's pyramids. Middle-Eastern television entrepreneurs are working on some masterpieces of their own.

That's hardly the only need to which Showtime is catering. The bouquet is also expanding its lineup to include French-language channels, targeting the countries west of Egypt, such as Morocco, Tunisia and Algeria, where French is the second language after Arabic.

Showtime has berth space alongside ART on NileSat, a satellite launched last year to specifically serve for digital TV signal transmission. NileSat is operated by the Egyptian Satellite Co., a firm backed in part by the Egyptian government and a consortium of banks and investors. Its headquarters is built right alongside the media-production city outside Cairo.

Nelson says: "A year from now, I do not believe there will be any significant Arab channel that isn't on NileSat in digital." To cope with this demand, NileSat will launch a second bird this coming winter, representing an extra $US140 million investment.

NileSat's chairman, Amin Bassouni, says new channels coming from Egyptian TV and other state-backed ministries are responsible for the success. "Now we need to be patient, and wait for the services to grow."

FULL CIRCLE

Those new services take this story full circle, and lead back to the Nile-side studios of Egyptian TV, which last year launched no less than six niche channels — each transmitting a minimum of six hours a day and generally building to 18-hour schedules this year. These channels come in addition to the established terrestrial networks, and two already existing DTH-satellite channels (the Egyptian Satellite Channel and Nile TV), which have been on-air for several years.

Egyptian TV's thematic channels go by the rather generic-sounding names of News, Family, Drama, Variety, Sports and Culture. But together, they are all creating some firsts for the Arab world: the first C-Span-type coverage of Egypt's Parliament, as well as eight channels that cover the complete educational spectrum — from primary school to the university level — each helping Egypt to regain some of its scholastic influence.

ART's majority owner, Sheikh Salah Kamel, has given the bouquet a "conservative" programming mandate.

"These will keep Egyptians and other Arabs in touch with the rest of the world," says Hassan Hamad, who is both head of the thematic channels and deputy chairman of the ERTU. "They can watch a film or a variety show or the news, but they can [also], for the first time, learn and study from television — from university channels as well as a channel for scientific research."

The importance of television — and, by extension, pay television — is particularly keen because only a slim majority of the Mideast population can read and write, and only the wealthy have the spare cash for any other sort of entertainment. Indeed, a 1997 Egyptian survey showed that 73 percent of respondents used TV as their main source of news. And even in middle-class Cairo, barely a third of adults are high-school graduates. The entire Arab-speaking world releases fewer books per year than tiny Belgium.

Sometimes, that makes for some oddly effective programming. Imad Adib, host of a nightly chat show on Orbit, explains his own program's philosophy: "Each day we try to do a little more. Our idea is to make each issue applicable for discussion. There are no restrictions here. There is no idea or official who is not accountable, and we try and examine these ideas, these 100 million ideas and issues."

Adib's show, *Ala Ala Hawa*, is *Larry King Live* rolled into *Oprah*, with just a dash of *Meet The Press*. "Yesterday, we spoke about the Iraqi problems with the [United Nations]. The day before it was 'I love my wife, and she loves me, but we cannot make love together.' Last week, we discussed art, and in the same week we discussed Viagra. It is not always people screaming; it is not always about politics," said Adib. "But it is always about people and our problems."

Adib and his talk show, the nightly dramas and telenovela series, the new shows coming from the media-production city, the latest sports offerings from around the planet — five years ago, hardly any of this existed. Yet today, 64 percent of all TV households in Saudi Arabia have access to satellite signals. The percentage is even higher in the U.A.E.

The only direction for multichannel television in the Middle East to go is up. And Cairo has another agenda that is also dependent on digital television. It wants its citizens to be better educated, its doctors better informed, its news and cultural message spread — like Sheikh Salah's *Omam* restaurant — to the four corners of the Arab world. ■

Multichannel News International
THE WORLD'S SOURCE FOR TV AND TELECOM ANALYSIS

1999 GUIDE TO

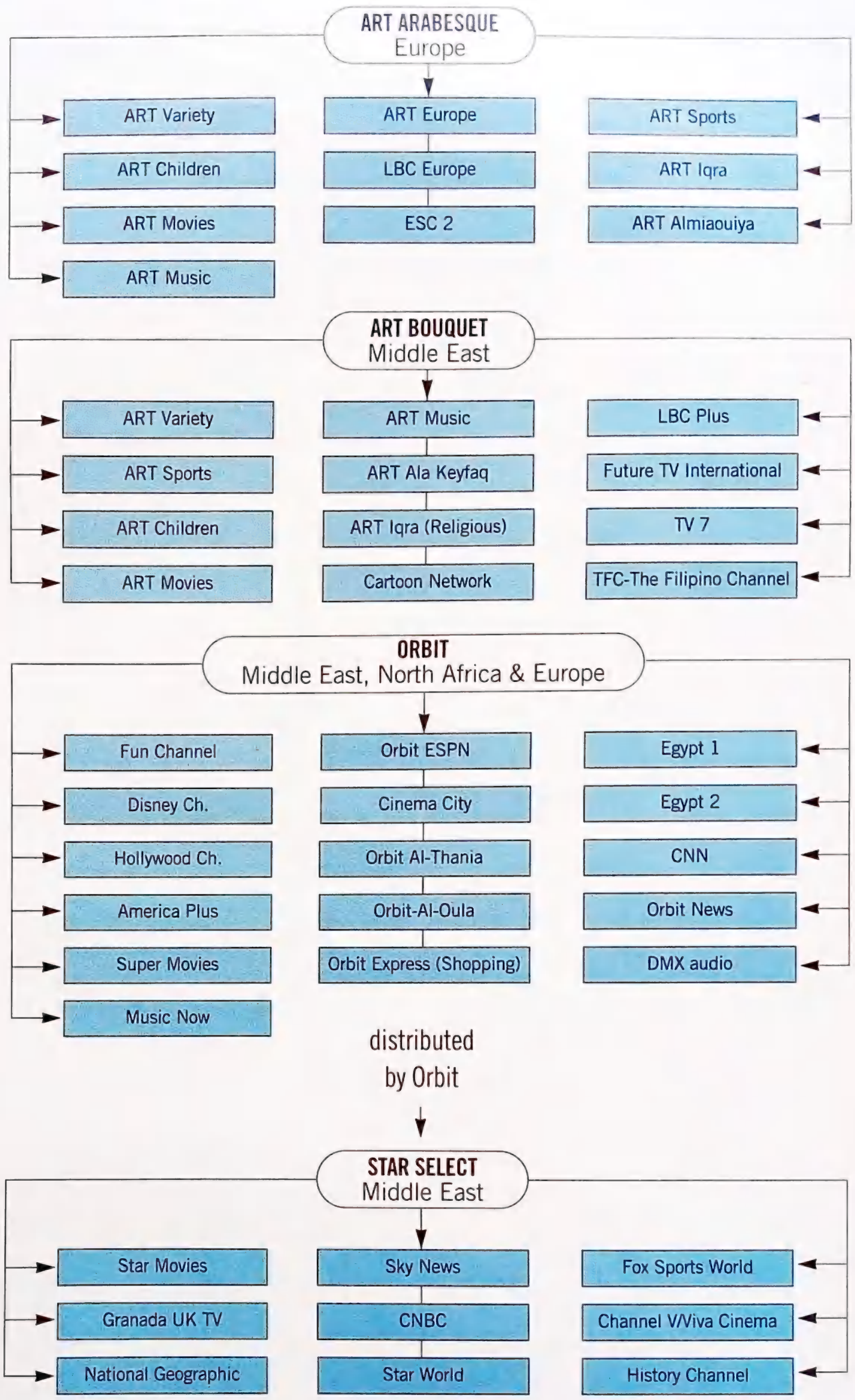
Middle East Program Connections

Free-to-air services expanded their role in Middle East satellite broadcasting following last year's launch of Nilesat 101, which brought an additional 31 unencrypted channels to the region's viewers.

Nilesat has added a new dimension to Middle East satellite programming with a unique offering of educational channels — an experiment that hasn't been tried anywhere else on such as scale.

The region's pay TV platforms have made their own gains over the last year, adding subscribers, expanding their programming and making progress to overcome obstacles such as subscriber churn.

Chris Forrester researched this year's chart.



Major players

Pay TV channels

Free-to-air channels

COMING IN MAY...

OUR NEW CABLE-MODEM DEPLOYMENT WALL CHART

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NILESAT 101
Middle East

- Egypt 1
- Egypt 2
- Egypt 3
- Egypt 5
- Egypt 8
- Egypt Satellite Channel 1
- Egypt Satellite Channel 2
- Nile TV International
- Horus Space Channel
- Horus Vision
- Palestine Satellite Channel
- Arab News Network
- Iraq Satellite Channel
- Oman TV
- Bahrain TV
- Ajman TV

- Libya TV
- Nile News
- Nile Family
- Nile Variety
- Nile Drama
- Nile Sports
- Nile Culture
- Education 1
- Education 2
- Education 3
- Education 4
- Education 5
- Education 6
- University 2
- University 1

SHOWTIME BOUQUET
Middle East

- The Movie Channel
- Nickelodeon
- Paramount
- TV Land
- MTV Europe
- VH-1
- Bloomberg TV
- Style
- Discovery Channel
- Hallmark Entertainment
- Sony Entertainment TV
- Music Choice
- M-NET
- ART-Highlights
- LBC Plus

- Nile Drama
- Egypt Satellite 2
- TV7 Tunisia
- TFC- The Filipino Ch.
- ART 1- Variety
- ART-Sports
- ART-Children
- ART-Movies
- ART-Music
- ART-Europe
- ART-Iqra
- ART-Almiaouiya
- LBC-Europe
- Cartoon Network
- TNT Classic Movies

ARABSAT
Middle East

- Sharjah TV
- LBC Sat
- Egypt Satellite Ch.
- ART 'Barker' Ch
- Nile TV International
- Bahrain TV

- CNN International
- Future TV International
- Orbit 'Barker' Channel
- Sudan TV
- Saudi Channel 1
- TV5 Orient

- Saudi Channel 2
- Ajman TV
- Abu Dhabi TV
- Dubai Sports Channel
- Emirates Dubai TV (EDTV)
- Syria Satellite Channel

- Middle East Broadcasting (MBC)
- JSC-Al Jazeera Satellite Channel
- Oman TV
- Kuwait Satellite Ch.
- Yemen TV

- Qatar Space Channel
- RTA (Algeria)
- Jordan Satellite Channel
- ART Iqra (religious)
- Libya Satellite Channel

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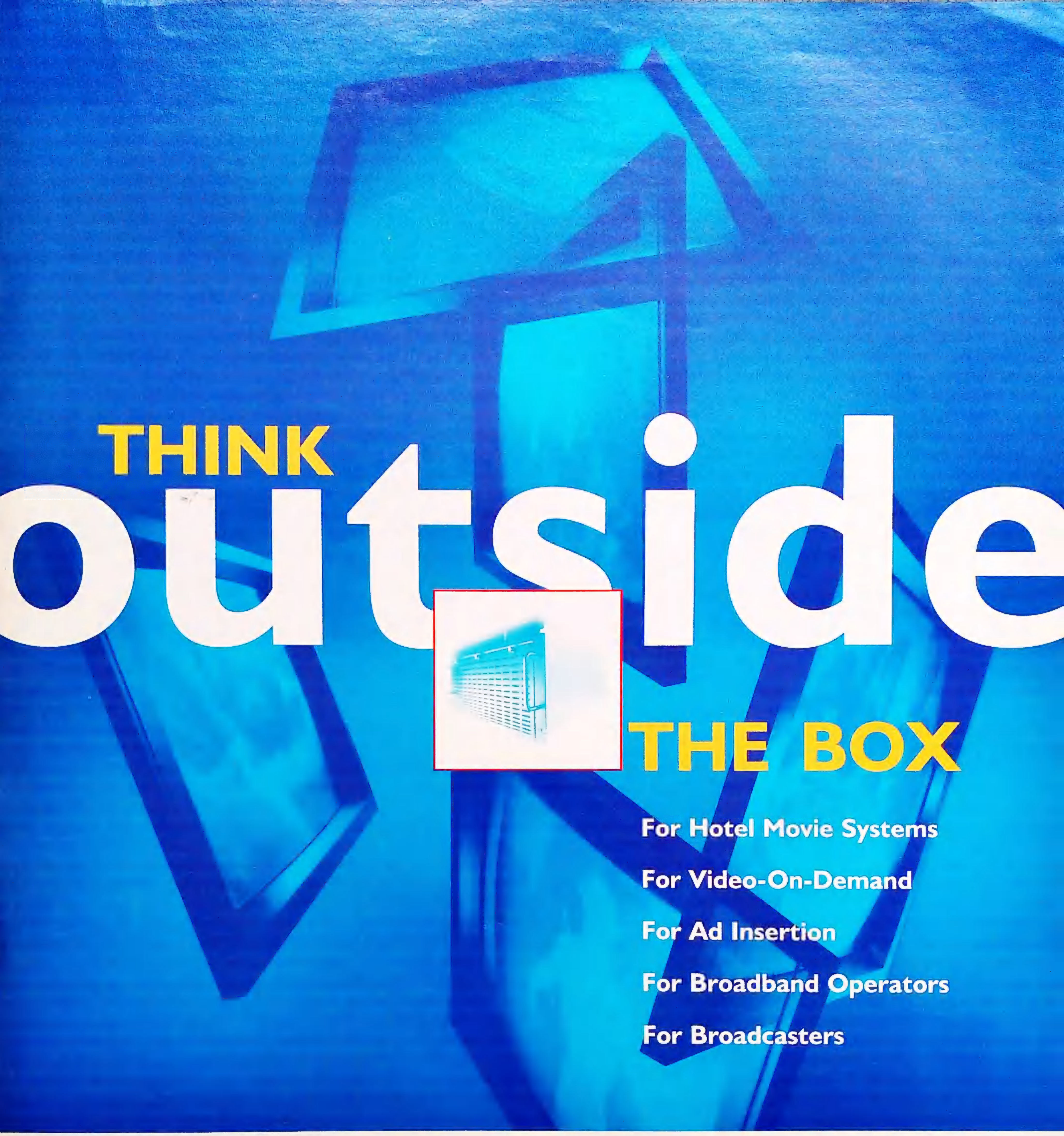

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Tracking Global Technology Developments in Voice, Video and Data

Teaching the Techs

Staying ahead of the technological curve has always been difficult — now it's becoming nearly impossible. Traditional analog-video hardware is transitioning to digital; new services demand the installation of new equipment, such as data and telephony modems; bandwidth is growing almost daily; and networks are becoming two-way. And that's just scratching the surface.

Yet, despite the ever-increasing pace of change and complexity, cable-TV engineers and technicians are expected to obtain the necessary expertise faster than ever before.

Pressure from operators who want to be "first to market" will require cable techs to know more than ever before, without delays that could cost the company business. The day is rapidly approaching when mistakes simply won't be tolerated.

BY ROGER BROWN

IN SYNC

So, how does one stay current on new technology, yet make sure not to forget the "old" stuff, too? Information supplied by equipment manufacturers is one method. Attending trade shows and seminars is another.

A third is reading publications such as this one. And finally, there are direct conversations with other cable operators.

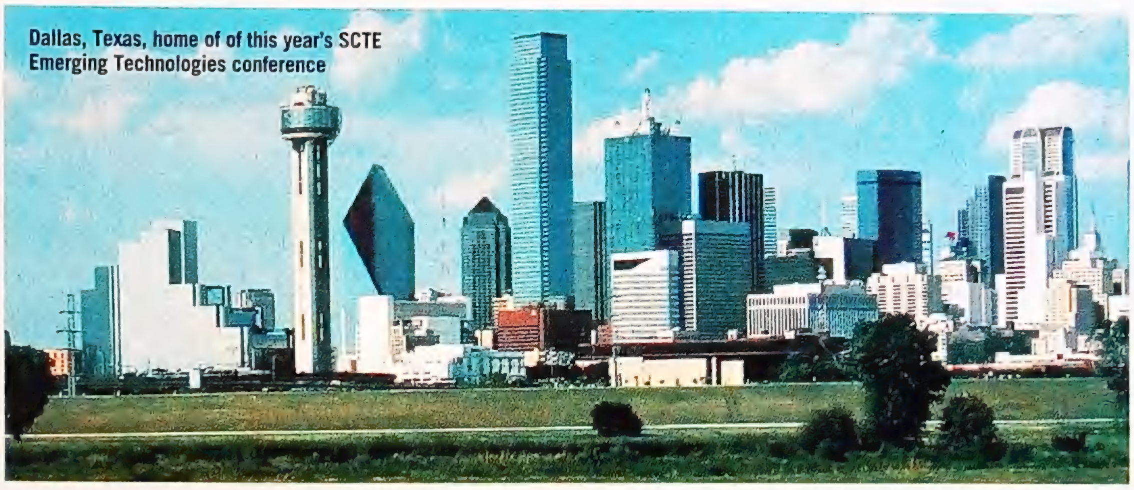
The latter is the premise of trade groups like the Society of Cable Telecommunications Engineers, based in the United States. Now 30 years old, this group boasts 15,000 members who interact via 75 local chapters. The group's mission is to provide training and certification to all its members, as well as to foster standards by virtue of its standing as an American National Standards Institute organization.

To date, the SCTE hasn't been very active outside North America. There is a similarly named group in the United Kingdom, but it has no formal affiliation with the U.S. association. Still, cable technical people the world over can benefit from the training and information that the SCTE offers.

And that's where we come in.

As you'll read on this page, the group recently held a conference that focused on several new technologies that will have a tremendous impact on the cable-TV industry. In fact, the SCTE has three such national seminars annually — the Conference on Emerging Technologies, the Cable-Tec Expo trade show and HFC, a seminar co-sponsored by the Institute of Electronic and Electrical Engineers. It's my plan to bring you detailed coverage of all those events, as well as of others that merit it.

As the cable industry grapples with transmitting packet-based services over its networks, we plan to share with you the lessons that are being learned along the way. We'll highlight the changes that the transition to digital technology will make in a technician's life. From traffic management to telemetry, from the return path to new competitive threats, we'll be the mouthpiece by which that information finds its way to you.



Dallas, Texas, home of of this year's SCTE Emerging Technologies conference

Emerging Technology For Today's Engineer

SCTE conference delivers the goods on packet technologies, traffic engineering, interactivity and more

BY CED STAFF

The U.S. cable industry's technical leaders collected *en masse* in Dallas, Texas, in January, seeking details on how to ready themselves and their networks for the looming world of packet technologies, interactive services and the onslaught of new competitors. The venue was the Society of Cable Telecommunications Engineers' (SCTE) annual Conference on Emerging Technologies, which the SCTE's new president, John Clark, dubbed "the hidden gem of the industry."

Clark, who took over the helm at the SCTE late last year,

Continued on Page 24

Lessons in Testing

BY ROGER BROWN

The advent of new technology and the deployment of new services are changing the face of the cable industry on a global scale. Networks are becoming ever more complex, with new, compelling services such as high-speed data, telephony and digital video all being pushed down the industry's broadband pipe.

The new services are a boon to cable subscribers, but the added complexity poses a potential headache to the cable operators' technical staffs. Suddenly, "business as usual" isn't really usual at all, as techs struggle to understand such things as digital-modulation schemes, Internet-traffic patterns and return-path ingress.

Tektronix's TV90 CableScout, part of its suite of testing products

Predictably, these changes are having a noticeable effect on the equipment that is used to set up, deploy, maintain and trou-

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SCTE,

Continued from Page 23

opened the two-day conference at the Wyndham Anatole Hotel, saying that "some call this the age of engineering empowerment, with new services, markets, customers, revenues and most importantly, profits." Clark said he intends to spend much of his time raising corporate cable awareness of the SCTE and its activities.

For repeat ET attendees, the experience was similar to years past: a deep-immersion learning experience, where hundreds of technical gurus sat in a densely-populated, darkened room for two days, soaking up detailed presentations on new technology from a cross-section of MSOs, service suppliers and vendors. The first of those came from Mark Dzuban, director of technical business development for AT&T Corp., who keynoted the conference. Among his varied remarks, Dzuban called cable's hybrid fiber-coax networks the best and most cost-effective method to deliver integrated services. "HFC is paramount to the vision for AT&T, and it has great and major advantages over the alternatives," including digital subscriber line (DSL), fixed wireless and satellite techniques, said Dzuban.

He added that AT&T's current network contains six to eight layers of transport and switching, and that its new plan is to go with an integrated approach that puts those layers on a common platform.

He said the development of standards-based cable modems is mostly what drove AT&T to forge relationships with the cable industry, including its pending acquisition of Tele-Communications Inc. and the recently announced joint venture with Time Warner Cable. "[Cable modems] allow us to really leverage a common platform so we can move forward in a very rapid rollout plan," Dzuban said. "It is a quantum leap."

AT&T's Mark Dzuban said the company will enter the IP-telephony game "in a big way" in 2000.

He said AT&T's network is evolving to a core high-speed transport-and-switching platform, based on Internet protocol, which will support commercial and consumer applications.

But, he said, one element is still missing: a national footprint that covers the 100 million households in the U.S. "We have HFC as a primary solution, but we need to cover a national footprint," Dzuban said. He declined to elaborate on AT&T's specific plans to fill in that gap, except to say, "there are solutions in other markets."

He said AT&T will enter the IP-telephony game "in a big way" in 2000, noting that the company's plans for 10 cable telephony trials this year will use circuit-switched techniques, not IP-based solutions.

When asked if the cable plant can adequately support the multiplicity of advanced services AT&T intends to provide, Dzuban was optimistic. "Yes," he said, "I believe [HFC plant] can meet the requirements that AT&T demands." He went on to say that cable networks "deliver. When operated properly, they do very well." When asked to elaborate on the effects of proper operation on field personnel, Dzuban said he was referring to mean-time-to-repair statistics that will

Continued on Page 26

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SCTE,
Continued from Page 24

dictate telephony applications. "We have to do that with reasonable consistency," he said.

Other panelists put a heavy emphasis on packet technologies, saying that the move from analog radio frequency to digital and Internet protocol will mark a radical change in the cable business.

PACKET PROLIFERATION

On the packet front, Terry Shaw, project director of network systems for Cable Television Laboratories Inc., the research-and-development arm of the industry, detailed the PacketCable effort. And executives with Cisco Systems Inc. and Lucent Technologies Inc. described how IP-telephony services will come together on cable's HFC networks.

PacketCable is a CableLabs-led project that will result in the writing of several specifications related to delivering IP-based services, such as telephony over a cable-TV network. A similar CableLabs project, known as Data-Over-Cable Service Interface Specification, or DOCSIS, now enjoys widespread support from the world's biggest manufacturers.

Harrison Miles, director of technical marketing for Lucent Technologies IP Communications, said that he expects to see widespread testing of voice-over-IP services by MSOs in the second half of 1999, with some commercial rollouts as early as the first quarter of 2000. But he believes it will take until 2004 before all the pieces are in place to support the full potential of IP telecommunications — weaving together multimedia, voice and video-conferencing applications.

Miles emphasized that the performance parameters of the primary IP applications — voice, fax and multimedia — are alike. He said that latency, packet loss and jitter — three ways to measure IP-data performance — are similar for cable-delivered packet services.

He also said that he's not convinced the single gateway-control protocol (SGCP) currently endorsed by CableLabs' PacketCable group, is the best choice for IP communications, because it doesn't have built-in intelligence features that could make IP-phone service as fully featured as traditional telco phone service.

"When you go into the database [of the PSTN], you need to be able to look up and assess what the available resources are. SGCP doesn't have all the hooks to solve this issue," he said. That belief may have an effect on the development PacketCable. "Different entities are asking for different capabilities depending on their legacy situation," he said.

Miles said AT&T proposed DOSA — Distributed Operations System Architecture — as an alternative to the SGCP approach. DOSA "envisions taking the 5ESS switch and tearing it apart and distributing it in the network," he said.

DOSA works with Session Initiation Protocol, which goes in the opposite architectural direction from the that SGCP takes. SGCP relies on a central call agent to communicate call setup and other instructions to end-user points, such as the packet-phone convertor that will reside in cable modems interfacing with standard telephones. All of the packet-related panelists expressed concern about delivering lifeline IP-telephony services over cable modems and set-tops, because of inherent powering issues that will affect both consumer devices. For example, they said, operators and the manufacturers that support them will have to find a way to keep set-tops and cable modems operational even when the power is down, so that subscribers can place emergency calls.

Existing circuit-switched-style cable telephony gear, in the works for more than five years now, has addressed that concern in product evolutions by fastidiously decreasing the amount of power needed by house-mounted, network-interface units. That kind of thinking now needs to be applied to power-hungry modems and set-tops with integrated modems, engineers said.

Another half-day session honed in on what it means, technically, to offer an integrated suite of services to customers, in what AT&T calls "the whole broadband approach."

CONVERGENCE

Ralph Brown, chief architect of set-top systems for At Home Network, kicked off the session by noting that PC and TV application convergence will never reach 100 percent. While an array of applications can be translated to either platform, he said, there are quite a few that will simply never make the transition.

On the silicon side, Thomas Quigley, director of Broadcom Corp.'s residential broadband business unit, said the rapid evolution of silicon will produce a single-chip cable modem by the second half of 1999, and a single-chip (albeit simplified) interactive set-top by 2000. When it comes to software, Sid Gregory, vice president of Tele-Communications Inc.'s National Digital Television Center, said that when multiple system operators are choosing an operating system, they need to consider the services they'll offer, the performance, the development tools and the hardware that an operating system supports.

He said TCI is still working at a feverish pace with Microsoft and Sun Microsystems to integrate Windows CE operating system with the Java-based middleware in the digital set-top TCI plans to deploy later this year. Also on the silicon front, John O'Donnell, president of Equator Technologies, detailed the structure and concepts behind programmable media processors that are optimized to handle multimedia — and especially video, audio, telephony and graphics.

Discussing Equator's new line of silicon chips, which features fully downloadable software, O'Donnell said the biggest advantage of the approach is its applicability to advanced set-tops, in that service changes could be coordinated via a download instead of a chip change or a truck roll.

On the second day of ET, attendees heard separately from Motorola Inc. and Lucent Technologies about how the new, integrated-service environment will affect traffic loading on today's cable plant. That issue is destined to become a big one in coming months, as operators cram high-speed data, IP-based services and digital-video services into a limited amount of spectrum.

And, as always, the last ET session focused on the competitive landscape, with presentations from Angel Technologies — which wants to launch a sort of "flyover" video-delivery service, that features antennas mounted on a trio of airplanes that fly over a city. Other presenters included Ward Laboratories, which has come up with a low-cost way to minimize signal disturbances in digital set-tops, and Texas Instruments Inc., which discussed how programmable digital-signal processing chips will affect the broadband market over the next five years.

At the end of the conference, attendees left satiated, lauding this year's program lineup and calling the annual gathering a don't-miss event. "There's just no other event that gets together a group of people of this caliber, and imparts this amount of detail, on what's happening to the technologies we use," said one attendee. ■

1999 Polaris Award Winner Named

CED magazine, Corning Inc. and the Society of Cable Telecommunications Engineers (SCTE) bestowed the coveted Polaris Award on Sudhesh Mysore of MediaOne Labs during the SCTE Conference on Emerging Technologies.

Mysore has had a distinguished career developing and applying optical technologies in the telecommunications industry for companies such as MCI Worldcom Inc., Sprint Corp. and U S West Inc. He has worked for the past three years at MediaOne Labs, formerly part of U S West Advanced Technologies.

Sudhesh Mysore, second from left, receives the 1999 Polaris Award at the SCTE Emerging Technologies conference. He is accompanied by Rob Stuehrk, publisher of *CED* magazine, far left; Patrick Brown, cable TV market manager, Corning Inc.; and SCTE president John Clark.

In 1996, Mysore used a high-powered optical amplifier to build a world-record fiber-transmission system that could carry an OC-48 over 67.4 decibels of optical loss. More recently, he has focused on refining dense wavelength division-multiplexing (DWDM) architectures to replace many of the benefits inherent with a conventional hub architecture, but at a reduced cost. He has also worked to demonstrate the feasibility of optical-protection switching to replace the survivable synchronous optical-network rings that are traditionally used for hub-headend transport links.

He has authored two technical papers. The first, *High Power Optical Amplifiers for Commercial Digital and Analog Video Applications*, was presented at the Institute of Electronic and Electrical Engineers' Optical Fiber Conference in 1996. The second, *Cost Reductions Using Novel Optical Technologies*, was delivered at the Western Communications Forum, also in 1996.

Named for one of the brightest stars in the sky, the annual Polaris Award honors an engineering manager who has been a leader in the pursuit of improved fiber technology. The selected individual has displayed exceptional achievement and commitment to the development and use of optical fiber. Past winners include Louis Williamson of Time Warner Cable, Oleh Sniezko of Tele-Communications Inc., John Brouse of Jones Intercable (now with 21st Century Communications), Hugh McCarley of Cox Cable, Jim Ludington of Time Warner Cable (now with Internetwork Integration Inc.) and Tom Staniec of RoadRunner.

Testing,
Continued from Page 23

bleshoot broadband networks. Traditional analog-test and-measurement gear suddenly must be augmented with digital equipment, yet many "old" analog measurements are still valuable. As with the deployment of any new technology, however, lessons are being learned along the way.

"The key problem is to maintain a training and support presence in locations that are nearby these deployments," says Syd Fluck, business manager for broadband test products at HP Calan, a U.S.-based manufacturer of cable-TV test gear. "It stretches any organization."

Given that the technology is so new, operators around the globe are leaning heavily on their test-equipment suppliers to provide the tools they need to support new service deployments — when they need them and at a price they can afford. The pricing issue becomes even more acute in some corners of the world that have significantly increased employee head-count in order to maintain a bi-directional network.

"In some cases, the manpower that needs to maintain a two-way network is two or three [staffers] to one over a unidirectional cable system," notes Fluck.

EDUCATION

Indeed, the training issue is "severe," according to Jim Harris, marketing manager for Trilithic Inc. He notes that as system operators transition to digital signal transmission, they're going to "see things they've never seen before" on TV screens, and therefore won't be able to instantly identify the type of problem they're facing.

To combat that, Trilithic organizes and hosts lectures and pens informational articles about unique upstream problems, digital troubleshooting and the like.

But more importantly, manufacturers have identified the need to make their test sets even smarter than they are today. The vendors are even attempting to reduce the process of making complex tests to a simple, one-button push. Others have devices so intelligent that they tell the technician if the system has passed or failed the test.

"We've introduced software that allows one-button testing," notes Chris Loberg, a business development manager for cable TV devices at Tektronix.

Philip Joosten, business development manager for the cable networking division of Wavetek Wandel & Goltermann, concurs. "We try to be clever and integrate new features across the board," he says.

But he also says that customers need to think outside the box, too. Instead of saying you need a new box that can test several different digital-transmission formats that you might be using, customers should think how they can actually get to the root of a problem. In many cases, says Joosten, a sweep system can provide enough information about a problem in the network.

In fact, Joosten says that data from customers shows that 89 percent of the time, network problems can be ferreted out using tried-and-true analog test devices. For the remaining 11 percent, a senior tech can be outfitted with digital test gear and pointed in the proper direction to solve the problem.

Loberg says Tektronix has also debuted, to resounding applause, its "Educating the Best" program, which utilizes a CD-ROM to pass along the latest information on digital deployment techniques, testing coaxial cable for digital readiness and other meaty technical morsels.

MARKET TASTES

Another challenge for test gear manufacturers is to offer the right products in the right place at the right time. Although most of the technology ports well from one locale to another, there are re-

gional preferences that can help a manufacturer stand out.

Trilithic's Harris, during his days at Tektronix, recalls that the Germans were especially interested in test gear that was adequately encased and protected from outside elements. "If it didn't look like the Bismarck, they weren't interested," he recalls.

Other potential buyers don't see the value in toughening up the gear, because the devices are looked after and babied by the technicians, according to Bill Morgan, project manager for cable TV products at HP Calan. "In some countries, they don't throw the devices in the back of a truck like they do in the U.S.," he notes. "Instead, it's riding up front, buckled in the seat."

> *"In some countries, they don't throw the devices in the back of a truck like they do in the U.S. Instead, it's riding up front, buckled in the seat."*
>
> — *Bill Morgan, project manager for cable TV products, HP Calan.*

Because cable systems are evolving, the test gear is, too. Today, most cable technicians who have to test digital networks are forced to carry two test sets, because the digital gear hasn't been integrated with the analog equipment yet.

"Our goal is to integrate everything into a single box," notes Fluck. "But getting there takes time."

That's especially true, because all the manufacturers realize there are sensitive price points out there. "There's so much more competition than there used to be," says Fluck. "Several years ago, instrument makers routinely raised their prices about 6 percent annually. But those days are gone. In fact, it's really hard to raise prices any more."

Consequently, each new product revision is laden with new features, but the device often costs the same as the previous version.

Does the cable industry have all the test products it needs to go forward boldly into the digital age? Probably not. The manufacturers do admit to product "gaps," but they also say that's an issue that may not go away for years.

INTELLIGENT GEAR

More and more, test instruments are transitioning from hard-wired devices to "virtual" machines that take on their own personalities and are tailored to specific regions in the world through firmware, according to Harris. "That's the way the world is going," he says.

But in addition to test gear getting smarter, cable network devices are also benefiting from added intelligence — a trend that's not lost on the test manufacturers. For example, cable modems and digital set-tops will be monitored by network-management software, making diagnostic checks and troubleshooting much more effective.

The upshot is that test gear makers will also benefit, because techs will have a much better idea of not only what problem they're facing, but where the problem is located — before they actually go out on a trouble call.

"That will minimize the amount of time it's going to take to fix the problem," notes Fluck. "The proper tech, carrying the right equipment, will already be matched to the problem. If we do our job right, he might even have the replacement part he needs before he gets there." ■

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THE WORLD'S SOURCE FOR TV AND TELECOM ANALYSIS

U.S. Fiber Industry Players Look Overseas

BY CRAIG KUHL

With glass, laser and transmitter prices dropping by as much as 20 percent each year, many vendors and manufacturers of fiber products see the international market as an important component of their long-term revenues.

And with a global market of 600 million homes, it's no wonder that fiber-related businesses consider their international strategies vital for growth.

Yet international expansion can be exasperatingly slow. Inconsistent regulations, currency issues, lack of access to capital, and few quality infrastructures make it difficult to establish a beachhead internationally.

Mix in the current "Asian Flu" economic crisis, which has had a domino effect on once-fertile fiber markets such as Latin America and the Pacific Rim, and only patient companies with long-term visions and determined strategies are likely to succeed anytime soon. "I think we all got very ambitious and lost sight of the risks involved in the international markets, like the economy, government regulations, etc.," says Ron Coppock, president of Antec International, a producer of fiber optic and radio-frequency transmission systems. "I think as an industry, we got ahead of ourselves."

Despite the odds, however, most cable and fiber industry executives agree that fiber's global future looks promising. "The international business will be very good," says John Dahlquist, vice president of broadband marketing for Harmonic Lightwaves, a designer and manufacturer of lightwave and digital hybrid fiber-coaxial networks. "There's a tremendous amount of business out there [that will come to fruition] in three to five years. We're positioning ourselves on the headend side, which we feel will see good growth."

Dahlquist and others see the international fiber market as a short-term hedge against a declining U.S. fiber market, which, according to a recent Paul Kagan & Associates study, will drop from 860,000 fiber-miles installed in 1998 to less than 550,000 in 2001, with dramatic decreases expected beyond that year.

And the international market's long-term payoff has the fiber industry salivating. "I think the international market has a good chance to [become] larger than the domestic market by next year," Dahlquist said.


MOORE

Consequently, companies such as Antec are placing more emphasis on their worldwide strategies. Coppock says the company is segmenting its international markets into five categories, all of which are expected to grow about 10 percent annually over the next five years.

"Inherently, we have a different set of users internationally," he says. "So we have five different segments: China, Southeast Asia, Latin America, Canada and Europe. And clearly, they're all growth markets."

Coppock points to China as an example. "There are three separate entities there who are all laying fiber: cable, telephony and data. There are huge opportunities in China for us." He also cites Latin America as a fertile growth market "because of its huge growth in newbuilds and telephony applications."

Antec, Coppock notes, is growing its business in Argentina, Chile and Peru as well, with Brazil poised to become its most lucrative market, once the country gets beyond its current economic maladies. "It has a huge household and TV market, with segmented demographics. And they have the numbers," he explains. "But the government has yet to make the hard choices to fight their economic problems."

And, as companies like Antec migrate to international markets, an in-market presence becomes critical. This will create valuable local job opportunities for people with the proper skill-sets. "It's crucial," he adds. "We have to have full technical and support capabilities because our product is very technical in the system area. We need field engineers and maintenance people close by, not just marketing offices."

Setting up shop in international markets is paramount to companies seeking a competitive edge in the fiber business overseas. That strategy is prompting Corning Inc., the leading producer of glass to the fiber industry, to expand its presence abroad as well. "We know MSOs won't [continue to] put in fiber at the rate they are now, so we are looking internationally," says Pat Brown, cable TV marketing manager for Corning.

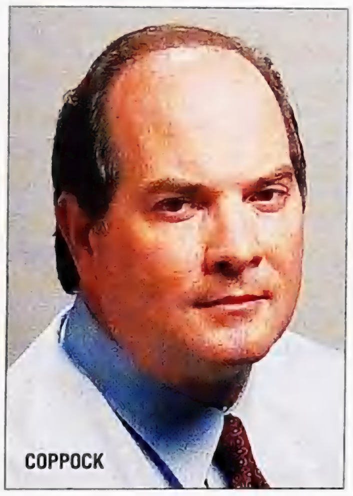
Corning has experienced an annual 30 percent increase in the number of kilometers of fiber installed during the past eight years, an impressive figure the company aims to build upon. Says Brown: "We are being more aggressive internationally, and want to address markets worldwide with partnerships. We have a rich history of partnering."

> *"We are being more aggressive internationally, and want to address markets worldwide with partnerships."*
>
> *Pat Brown, cable TV marketing manager, Corning Inc.*

Corning recently acquired interests in BICC plc, a Wales-based manufacturer of single-mode fiber, as well as Australia's Optical Waveguides.

For Ortel Corp., however, developing a local presence overseas is not a critical part of its international strategy. The laser-transmitter producer is growing its international fiber business through domestic original equipment manufacturers (OEMs), so establishing itself locally is not an efficient business model, according to Bill Moore, the company's vice president and general manager.

Ortel's analysis of the international market, completed last year, crystallized the company's overseas fiber strategy, Moore adds. "We don't need a big sales force, because we work with OEMs who sell overseas. It became real clear that in our business, working with OEMs is a much more economical way to go," he says


COPPOCK

Indeed, the international fiber business will definitely gain importance as the North American market matures, Moore insists, regardless of its present state. "The international market is really growing in importance, despite the current economic crisis," he said.

Once the crisis passes, most fiber industry officials believe the international market will grow stronger, given the voracious appetite for fiber-rich plant, both in the U.S. and overseas. "If you look at what's driving network architecture — near video-on-demand, broadcast, HDTV and more — they take up more bandwidth, and the optics segment of the business will allow greater capacity," says Bob Scott, director of marketing for optoelectronics at Scientific-Atlanta Inc. a full-line cable-TV equipment manufacturer.

For members of the fiber industry, that, hopefully, will translate into more sales worldwide. Turning those opportunities into actual sales is a speed bump for companies intent on driving deeper into international markets. For instance, developing and implementing a compatible billing system, which varies from country to country, can be one of the more daunting challenges to growing a fiber-rich plant and business overseas.

"Typically, our billing applications are universal, but each country has a unique layer of local requirements, like taxation," reports Curt Champion, director of marketing for cable and broadband solutions at Convergys Corp.

A billing system, Champion says, must accommodate the myriad of local nuances such as taxation, local database and directory information, and requires distinct components in its billing nucleus. "Each market has a core interface. Then we create our solutions so that wherever they are deployed there's another layer of applications that is unique to that market," he explains. "It's very important that we extend a portion of the applications to meet each country's different requirements."

To meet the increasing demands of its international business, Convergys routinely receives updates from its international customers regarding new tax laws, product launches and market variables — all closely related to the expansion of fiber-rich plant overseas. "Our business will extend even further into the international market. As a result, we'll need to meet the increased demand by partnering with early-adopter companies in countries moving from regulated to unregulated markets," Champion notes.

The final challenge for the fiber industry as it expands into more international markets is to stay focused on advancing technologies and the new services they will ultimately bring to consumers worldwide. Concludes Champion: "The real challenge is to understand what capabilities 'rich-fiber networks' will be able to offer, and what is the next wave of product offerings. We have to work closely with them."

Most of the fiber industry believes that the "next wave" of offerings is expected to reach high tide sometime in the next three to five years. Just which foreign soil it has the most impact on, and to what degree, will most likely depend on the fiber industry's patience and diligence. ■

New Products

Amplifier ICs

Anadigics has developed the ACA0861 series of GaAs-line amplifier-integrated circuit, which features low distortion for cable TV applications. The amplifiers can deliver higher output power than hybrid solutions, according to the company, allowing cable-TV service providers to user fewer amplifiers in the overall distribution stream.

The series consists of four devices. The ACA0861A and ACA0861C are designed as input stages and can be used alone for low-gain, low-output-level applications, or can be cascaded with one of the output stages for higher gain and output signal-drive level. The ACA0861B and ACA0861D are designed as output stages and can be used alone for low-gain, high-output level applications or can be cascaded with one of the input stages.

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Web site: www.anadigics.com

Telemetry Modem

ISC Datacom, acting as an original-equipment provider for Leach Industries, has developed a remote-telemetry modem for the automatic meter-reading industry. The modem runs at 19.2 kilobits per second, frequency-shift-keying modulated at 400 kilohertz bandwidth, and complimentary metal-oxide-semiconductor inputs provide power to the modem in the meter-reading application.

The meters are undergoing beta tests at the municipally owned cable system in Newnan, Ga., according to company officials. When operated on a cable system, this application allows for meter reading, time-of-day billing, outage notification and load control. The Leach Industries meter, the AMRON II, offers expansion capability to allow digital inputs from water and gas meters.

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DWDM Products

ElectroPhotonics Corp. has announced its Optical Performance Monitor (OPM), which uses a proprietary technology for spectral measurement of dense wave division multiplexing (DWDM) systems to provide accurate measurements of wavelength, power and optical signal-to-noise ratios on a per carrier basis. Company executives describe the OPM as two measurement devices in one: a wavelength meter and an optical-spectrum analyzer.

The company has also added the TIGRA300, suitable for DWDM networks, to its series of fiber Bragg-grating-based dispersion-compensation modules. The device offers chromatic dispersion adjustment with independent center wavelength control, allowing for on-the-fly programmability with environmental stability, says the company.

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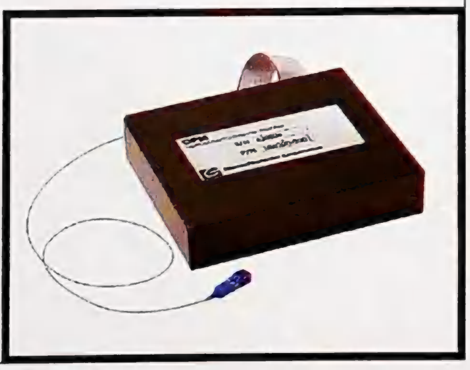
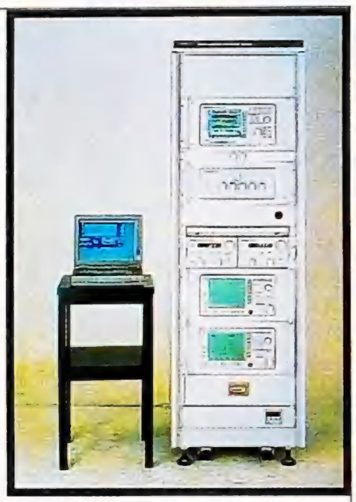
Tel: (1) 905-669-4660
Fax: (1) 905-669-3722
Web site: www.electrophotonics.com



Optical Amp Tester



Anritsu Company has introduced its optical amplifier-test system (ME7890A), which integrates an optical spectrum analyzer, optical modulator and PC-compatible controller to make NF and gain measurements of optical amplifiers used in wave division multiplexing (WDM) systems. The system uses a measuring technique that has a number of advantages over the traditional fitting technique to more accurately measure WDM amplifier noise, says the company.

Covering the 1530 nanometers to 1570 nm wavelength range, the system is capable of measuring channel space of 50 gigahertz. This allows the system to accurately measure the small difference between wavelengths of multiple signals found in WDM systems.

Anritsu Co.
1155 E. Collins Blvd., Ste. 100
Richardson, TX 75081 USA
Tel: (1) 972-644-1777
Fax: (1) 972-644-3416

Lazer Diode Testing

EXFO's new Reliability Test System measures and quantifies laser-diode reliability through elevated temperature-life tests.

Its accompanying database, application software and aging data analysis software provide data analysis and tools for the development and qualification of new components and designs. The RTS-100 also meets production environment requirements for highly traceable and documented pre-shipment burn-in data of laser-diode modules such as 980-nm and 1480-nm pumps, and DFBs up to 1A per channel.

EXFO Inc.
465 Godin Ave.
Vanier, Quebec G1M 3G7
Tel: (1) 418-683-0211
Fax: (1) 418-683-2170

Voice, Fax Over IP

Telogy Networks Inc. has announced a scalable voice and fax over Internet Protocol solution for the cable industry. The new solution features Broadcom Corp.'s cable-modem reference design integrated with Telogy's Golden Gateway Voice and Fax over IP software. This solution allows connections to the public-switched telephone network from cable networks.

The software addresses quality-of-service issues such as network delay, jitter and lost packets. It also incorporates compression, line-echo cancellation, tone detection and compliance with network interface protocols such as H.323, SGCP and MGCP. It also supports telephony protocols such as FXS/FXO, ISDN and QSIG. Golden Gateway's telephony signaling software addresses the complications of translating between traditional telephony signals and modern data networks such as those being built by cable providers. It interacts with telephony equipment, translating signaling into data messages that are used to set up cable-network phone calls.

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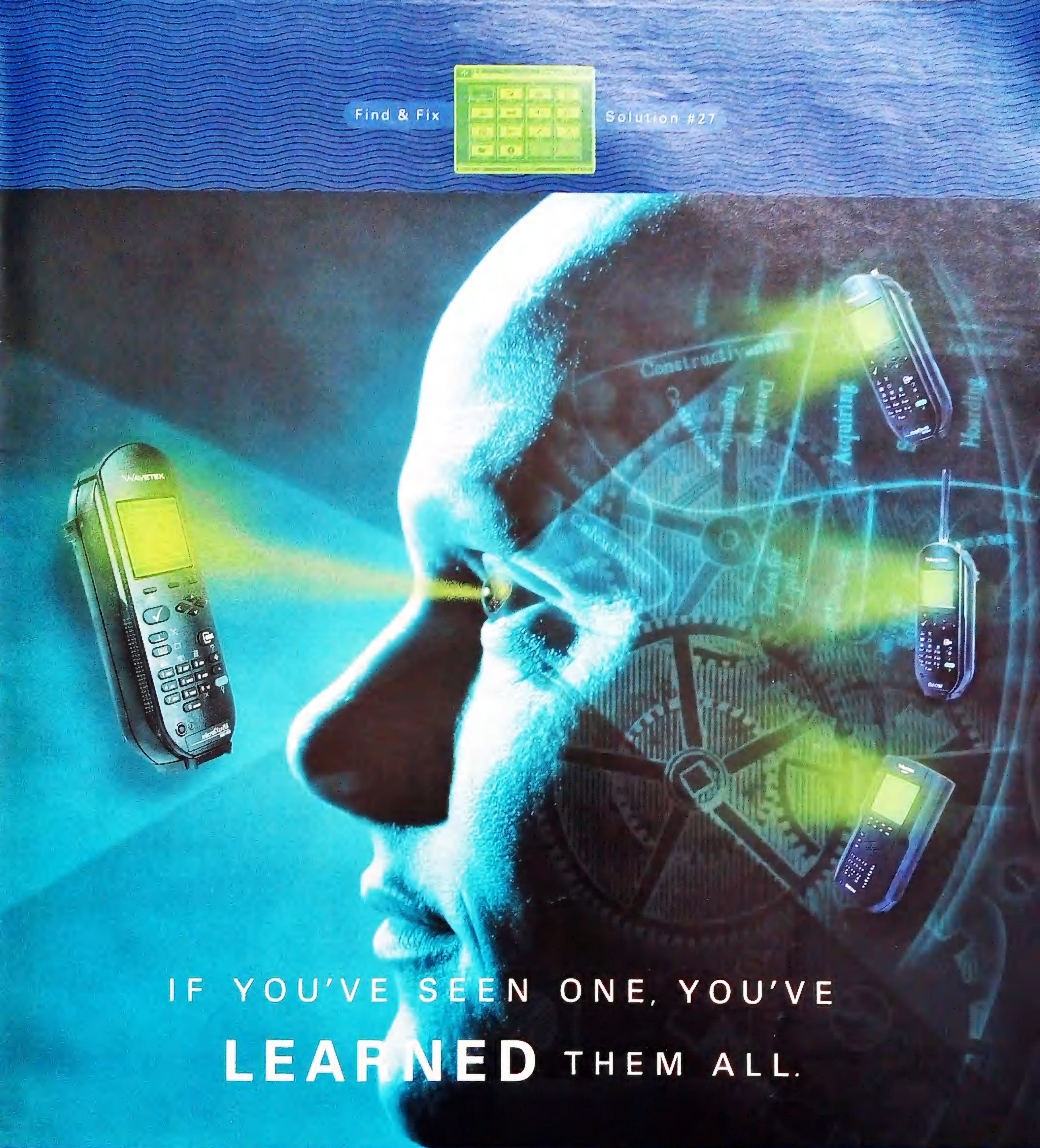

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WAVETEK

BLIPS ON THE SCREEN

Soccer,

Continued from Page 5

ropéennes de Football, better known as UEFA. The TV rights are tightly controlled through its associated company TEAM, but clubs believe they are being shortchanged as a result.

Attempting to capitalize on this resentment, a consultancy called Media Partners last September announced plans to establish a European Super League, or ESL. It was little surprise that Milan, Italy provided the base for the European Super League. Home to Fininvest chairman and A.C. Milan owner Silvio Berlusconi, it was there that a very non-Italian-sounding Rodolfo Hecht masterminded the plans at Media Partners.

Top clubs such as the U.K.'s Manchester United, France's Paris St. Germain and Juventus of Italy were involved in the discussions. And Mediaset SpA, Kirch Group, Canal Plus S.A. and News Corp. were all believed to have been approached about the project.

Aiming to create an elite, pan-European competition, the ESL plans to concentrate on maximizing television-rights deals, and that has coincided nicely with the launch of a series of digital-television platforms across the continent.

Hecht comments, "If you look at the structure of football in Europe, it is designed for amateur sport. It's fun to go up and down and be relegated in and out of the European cups — until you invest £40 million [$US64 million] in salaries. Then it's not such great fun."

Media Partners proposed a setup that would replace the UEFA-backed Champions' Cup and involve 36 clubs. There would be 18 "founder clubs," chosen "solely on sports merit." The remaining 18 places would be up for grabs each year. A Pro-Cup would replace the Winners' Cup and the UEFA Cup.

Media Partners claims this would generate around £875 million ($US1.4 billion) in its first year. At least 70 percent of that would be passed back to the clubs, with the winner netting around £40 million ($US64 million). This compares to the £300 million ($US480 million) reportedly shared among the 24 clubs that participate in UEFA's Champions League, in which the winner picks up around £9 million ($US14.4 million).

The difference was almost entirely based on the amount of pay-per-view matches Media Partners expected it could negotiate. That's something UEFA has largely resisted to date, arguing it would disenfranchise too many supporters. Concerned about the difference in the figures, UEFA threatened the clubs that had been involved in breakaway talks that they risked expulsion from their domestic leagues — their primary source of revenue — if they joined up with Media Partners.

In November, after a number of counter accusations, Europe's 14 leading clubs met and accepted UEFA's proposals for a 32-team European Champions' League. But they warned UEFA that further negotiations were needed on financial matters, particularly the division of TV revenue.

Ironically, the so-called G14 is now pushing for TEAM to be stripped of its distribution rights in favor of Media Partners playing a greater role in collective negotiations with sponsors, while the individual clubs take more responsibility for their own rights.

The G14 clubs include Paris St. Germain, A.C. Milan and PSV Eindhoven of the Netherlands, all of which are owned by media ventures. Also in the group is Manchester United, which has subsequently been the target of a $US1 billion acquisition bid by Murdoch-controlled British Sky Broadcasting plc, the U.K. direct-to-home satellite operator that launched its own digital service last October.

> *Ironically, the G14 is now pushing for TEAM to be stripped of its distribution role in favor of Media Partners playing a greater role.*

While BSkyB's bid preceded a round of announcements, including an agreement by cable operator NTL Inc. to buy rival club Newcastle United, it is believed that News Corp. may be looking to play a more active role in any European discussions.

In the U.K., the major competition, the Premier League, is under investigation by the Office of Fair Trading for supposedly acting as a cartel by negotiating its television contracts collectively. BSkyB currently holds the rights as part of a US$1.1 billion five-year deal.

John Mansell, senior analyst, Paul Kagan Associates, argues that Murdoch is "hedging his bets against any future break-up of the Premiership position." Sky has signaled its long-term intentions with the limited introduction of PPV soccer services for the first time last month, when Oxford United played Sunderland, available for a fee of $US13.

While quite entrenched in the U.K., Murdoch's big gamble to replicate that success in another soccer mad country, Italy, has proven much more difficult.

With News Corp Europe having agreed to take an 80 percent stake in Telecom Italia's digital pay TV service Stream, NCE chairman Letizia Moratti made an audacious 4.2 trillion lire ($US2.53 billion) bid to win the rights to the Italian soccer league for five years.

Concerned about the implications of an non-resident controlling rights to the national obsession, the Italian government passed a rule that prevented a single broadcaster from controlling more than 60 percent of the soccer-league rights.

This legislation infuriated Murdoch, as it did not affect a prior agreement between existing digital pay TV operator Telepiú SpA, backed by Canal Plus, which gave the service exclusive rights to cover the country's top seven soccer clubs.

NCE pulled out of the Stream deal on Feb. 12, but indicated it would still pursue a strategy that would see it gain a foothold in Italian soccer.

Immediate speculation suggested that Murdoch would seek an alliance with Canal Plus. A News Corp. source said that executives from NCE were still talking to French terrestrial broadcaster TF1, which was also involved in the aborted talks into buy into Stream, about entering Italy. The exact nature of those talks is unknown.

Murdoch could seek a deal through which he would take a stake in Telepiú and, in return, give Canal Plus more sway at BSkyB.

Cooperation between News Corp. and Canal Plus seems increasingly likely following Canal Plus' purchase of a 24.6 percent BSkyB shareholder Pathé. Canal Plus' stake in Pathé will double to 49.2 percent in two years.

Pathé's main shareholder, Jérome Seydoux, is currently chairman of BSkyB, and it is likely that some sort of agreement between the two sides will arise long before any boardroom battle occurs. ■

Bands,

Continued from Page 5

and practical and monetary help for Chinese talent in areas like music-video production.

The regional variations are vital to both channel groups, in the opinion of Tim Foley, Asia research director for Optimum Media Direction, the media-buying arm of ad agency BBDO Asia Pacific Ltd. "From my point of view, if you are looking at regional TV, you have to look at it market by market," he says.

Channel V's Chinese music awards logo

Foley says his perception is that Channel V is stronger in northern Asia — including Taiwan and China — and MTV has more power in the south. The Star TV service was perceived to be "more Asian," while its rival was viewed as a "more international" service, he adds.

But being "more Asian" isn't always a plus. In Manila, a senior executive at a cable TV operation notes that the Philippines looks to the United States for many of its cultural and sporting heroes. Having Chinese singers on the screen is a disadvantage.

"It makes a big difference towards the brand appreciation," says the operator source. "MTV has a lot more value-added shows like *Singled Out* that are very popular among the youth. The Channel V International revamp is long overdue."

Brown's assertions would certainly indicate that that is true. He says MTV's Asian distribution – which also includes program blocks on local broadcast stations — rose by 60 percent last year. That translates into a base of 100 million households. He also reports that the average number of viewers watching MTV's Asian feeds has increased eight-fold in a year.

Hand in hand with this growth is MTV's commitment to increase brand awareness with initiatives like the Youth Marketing Forums that have been held in several Asian cities for advertisers and marketers. Turning up the spin machine, Brown calls them "a rock concert for the trade."

He's also strengthening the channel group's clout with an Internet joint venture that will upgrade MTV Asia's Web site, which has largely been a promotional tool. The new version will feature bilingual chat capabilities, downloadable software and online shopping.

Channel V's most notable strengthening effort has come in the form of money — a $US35 million infusion from its shareholders to cover expenses for the next three years. The partners include not only Star TV, which has a 62 percent stake, but Sony Pictures Entertainment and EMI (with 15 percent each), and Warner Music Group and BMG (with 4 percent each). The extra funding will give all three Channel V feeds a 15 percent programming-budget increase following a two-year freeze.

Smith admits that boardroom "disharmony" held back Channel V in the past. Now it is fully behind him, he says. Perhaps more importantly for a service that was felt to be outside the Star TV stable, despite sharing premises with the platform, both News Corp. and its chairman Rupert Murdoch have voiced their support for Channel V.

The programming strategy in the crucial Indian market is being skewed toward the 12-year-old to 29-year-old age group. It's also heading away from the Hindi pop music delivery and toward a more international music menu, says Smith. The risk of losing ratings in the short term is offset by the gamble of attracting advertisers to niche audiences. At the same time, Channel V is considering splitting the Indian channel into four separate feeds to target different regional audiences, and could open production centers in various parts of the country.

Curiously, this finds a resonance with Brown, who says the music channels need to make themselves more attractive to advertisers that are currently using the shotgun approach of terrestrial-TV advertising to reach niche audiences.

In speaking of the music channel rivalry, Smith comments, "We are always going to be competing. I hope that in 1999 we can be more positive and build up each other rather than trashing them."

Brown has some kind words about his rival as well. "I think it's good if Channel V gets more active. Competition is good for consumers, advertisers, cable distributors, the record labels and the channels," he says.

Perhaps Asia's warring music channels are cautiously learning to sing in harmony. ■

Brazil,
Continued from Page 5
AIG Latin America; and financial-services company Metropolitan Life. But adhering to foreign ownership rules, they do not hold more than 49 percent of the company's equity. Their local partners on the team are SBT and TV Bandeirantes, Brazil's No. 2 and No. 4 broadcasters, respectively, plus the daily Rio de Janeiro-based newspaper, *Jornal do Brasil*.

TV Cidade hasn't been totally immune from Brazil's economic plight. Jafet says that it decided to drop several of the concessions it won in blue-collar areas, where spending power is likely to be hit hard by the country's recession.

Ironically, TV Cidade played a small part in the unlucky timing of the licenses. It managed to irritate license bidders and the market in general when it filed a lawsuit challenging the regulations governing the entire process. But delays have also been largely attributed to government bureaucracy. According to some, there was lobbying pressure from Globocabo and TVA, which were keen to consolidate their existing operations before new competition arrived.

TV Cidade intends to invest $US350 million over the next four to five years to build new cable operations in the 12 towns for which it won licenses. Together, the territories boast 8 million inhabitants, including 1.1 million households in the A-, B- and C-socioeconomic groups, the target demographic for pay TV operators in Brazil.

According to Jafet, the jewels in the crown are Salvador, the capital of Bahia state with 2.2 million inhabitants, and Niterói and São Gonçalo, two neighboring towns that are part of the Rio de Janerio metropolitan area. In addition, Juiz de Fora, Volta Redonda and Aracaju are mid-sized towns with good potential. The company holds further concessions in Viamão and Gravataí, which are on the outskirts of the southern city of Porto Alegre. In the Recife region it won licenses in Jaboatão dos Guararapes and Paulista.

Doubts have been cast, however, over TV Cidade's ability to thrive as a newcomer to the market. There is skepticism because its local Brazilian partners have never operated multichannel businesses. They are also facing difficulties in their core business: The broadcaster TV Record stole Bandeirantes' position as the third-ranked broadcaster in Brazil, and is now threatening SBT's No. 2 slot. Meanwhile, *Jornal do Brasil* is facing a severe debt crisis.

However, Roger Karman, the head of TV Cidade, is viewed as an experienced cable man. Formerly president of the Brazilian Pay TV Association, Karman co-owned cable operations that were eventually sold off to Globocabo and TVA.

He will face the challenge of establishing operations during an economic crisis. But it is not something that appears to daunt the company, as it sets its sights on a new round of licenses just coming into view. ■

IP Telephony

Continued from Page 8
isting IP-telephony network, with connections to 26 countries around the globe. The company wholesales international calls, acting as the middleman between terminating companies in various countries and those firms that sell prepaid-calling cards. Because of tariff structures, ITXC can route calls through the Internet for a lower price than calls that go through standard channels. Most of the company's business comes from carrying traffic from North America and Europe to the rest of the world.


MACDONALD

This is frequently sold in the form of prepaid calling cards to immigrants who are looking for a less expensive way to phone home, and are willing to accept lower quality in return for discounted rates. The cut-rate advantage is what all the companies delivering IP telephony today tout.

The quality of the connection, according to Mary Evslin, vice president of marketing and customer success of ITXC, can vary greatly. Sometimes there is no difference between VOIP and the best of today's switched networks. Sometimes a VOIP call is as bad as a satellite call bounced halfway around the world. Evslin says ITXC delivers quality comparable to second- or third-tier switched networks for 20 percent less.

In order to achieve this quality with today's technology, ITXC monitors Internet congestion 24 hours a day, seven days a week. When congestion develops, it reroutes traffic to another Internet-service provider.

In building its network, ITXC needed to have equipment from various vendors work together.

"None of them talk to each other, absolutely none of them," says Evslin.

The interoperability problem arises because the existing standard that covers IP-multimedia applications, H.323, was never intended to handle IP telephony. A series of revisions has resulted in a creeping standard that all vendors meet, but there is no agreement on the basics.

ITXC solved the equipment-interoperability problem by building two separate networks. Then the company teamed up with two IP-telephony equipment vendors — Lucent Technologies and Israel's VocalTec Communications Ltd. — and formed the iNOW group. The group then published details of how the two equipment vendors accomplished interoperability between themselves. Other IP heavyweights have recently joined iNOW, including Ascend Communications Inc. and Cisco Systems Inc., as well as Germany's Siemens A.G. The group is apparently gaining momentum.

"We're considering actually joining up because a lot of people are joining up. It is basically another layer of interoperability, vendors getting together to say they will interoperate," says Sean Parham, director of Internet-products operation at Motorola.

Other interoperability efforts can be found in work on PacketCable by Cable Television Labs Inc. (CableLabs) of Colorado. PacketCable is built upon CableLabs' data-over-cable-service interface specification (DOCSIS).

One important point for cable operators is that DOCSIS provides for the encryption of traffic, notes Frank Christofferson, project director of software systems on the PacketCable project. In the case of IP telephony, that means conversations will stay private.

The establishing of standards takes time. Christofferson says PacketCable specifications will be out in the latter half of this year. ITXC's Evslin says that it will be 18 months before general IP-telephony standards are firm.

While specifications are being written in stages in order to quicken deployment, it will take time before interoperable IP-telephony products become commonplace.

> Ovum predicts IP telephony will help cut the cost of international calls by a factor of five over the next 10 years.

There are also other technical issues that have to be resolved. One is the simple matter of placing a phone call. Today, this involves punching in a string of digits. With IP telephony, such signaling involves translating those digits into a dynamic IP address on the calling end, and then translating them back into a phone number on the receiving end. Otherwise, the receiving phone won't ring.


EVSLIN

That's difficult enough, but consider the case of enhanced 911 emergency service, which is mandated in California, New York, and other parts of the U.S. The subscriber can simply dial three digits — such as 911 — that will make the phone ring at the nearest emergency-dispatch center. At the center, the dispatcher gets a display showing the caller's address, a map of the location, the phone customer's name and other information.

In the IP case, not only would this involve ordinary call signaling, but there would also have to be subscriber database access from the IP-telephony carrier to the dispatch center.

This means that any IP-telephony network will have to interface seamlessly with the switched network. Most calls will, by necessity, either originate or terminate in the standard-telephone network. That raises a host of other issues, such as lifeline service. In many parts of the world, a phone is required to remain operational. Power can go out at a home or building, but as long as the physical line remains, the phone is expected to work.

For cable operators in particular, accomplishing this can give rise to a multitude of other problems. For one, lifeline service would mean that cable modems would have to be powered continuously. That might mean some additional power source, and expense, at the customer's premises. For another, repair centers would have to be staffed and crews dispatched around the clock.

But there is also money to be made, even today as these technical issues are worked out. After all, companies such as ITXC currently have a revenue stream from IP telephony. And Evslin points out that this arbitrage opportunity is open to any copper, fiber optic, wireless or satellite carrier.

While this business will eventually disappear, it may take several years. At that point, higher value-added services, such as combined messaging of voice, fax and data, may lead to more expensive products with greater revenue streams. Then, with the technical issues resolved, it may well become clear that cable is ideally suited for IP telephony and its potential revenue.

"What's different about IP over cable is two things. First of all, you have a lot more bandwidth available. Second, you have a persistent connection that is up all the time," notes David Sokolic, marketing director of service providers for VocalTec. "IP telephony is a great application that is easy for people to understand, and also takes advantage of both of those two things." ■

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Taking Stock

BY MIKE GALETTO

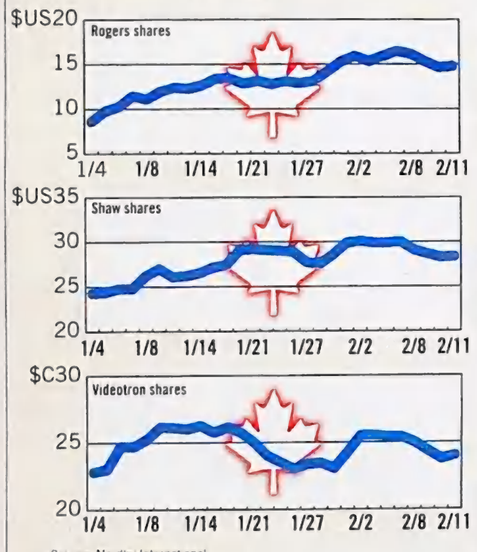
OPERATIONS

Carousing Canada

THERE'S BEEN A LOT OF TALK about the stellar rises of U.S. and U.K. cable-operator stocks over the last year and a half. Now that same momentum has managed to ride the winds into Canada.

Shares of the country's three big multiple system operators have made gains this year as they deploy advanced services that will bring in additional per-subscriber revenue.

Heading North



Source: Nordby International

Early last month, Le Groupe Vidéotron Ltée. began a rollout of Scientific-Atlanta Inc.'s Explorer 2000 set-tops to enable two-way services such as video-on-demand, e-mail and Internet access on television in its Quebec systems, one of North America's biggest clusters with 1.5 million subscribers.

And in January, Shaw Communications Inc.'s Shaw Cablesystems G.P, which serves 1.5 million customers, said it completed a multimillion-dollar investment to deploy digital cable across its systems. The company also sold stakes in At Home Corp. and Terayon Communication Systems Inc., and will use the profits to pay down debt and build its working capital, says Peter Bissonnette, Shaw Cablesystems' senior vice president of operations.

Rogers Communications Inc. should also benefit from advanced services.

The bright outlook led Goldman Sachs & Co. analyst Lou Kerner to upgrade Vidéotron and Rogers to his "recommended list" — the Wall Street firm's highest rating — from "outperform."

Kerner points out that Rogers could become one of AT&T Corp.'s telephony affiliates outside U.S. due to their existing relationships in the wireless sector, while he considers Vidéotron to be on the cutting edge of Internet-protocol telephony.

"The growth [potential] in Canada starts to match or exceed growth in the U.S. Yet the [operators] still trade at a considerable discount, to some degree because the valuations are still being driven by Canadian investors, who tend to pay considerably less for the same assets as investors in the U.S.," he says.

A Statistician's Dream

IF YOU EVER wanted to dissect the mass of numbers behind the pay television industry in the United States, there's an anatomy guide that will give you a hand.

New York investment bank Veronis, Suhler & Associates Inc. in January released its 16th Annual *Veronis, Suhler & Associates Communications Industry Report*.

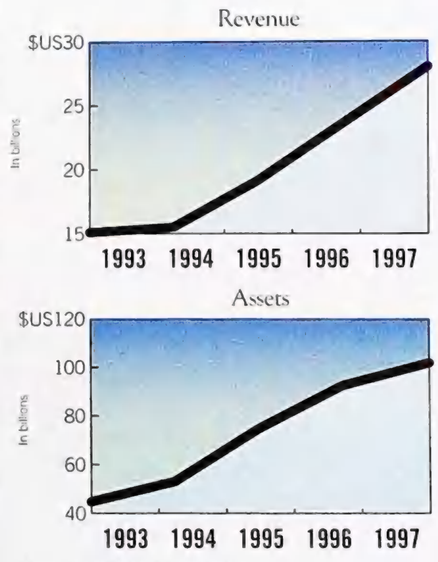
The 428-page tome tracks growth in a handful of communications-industry sectors — including publishing, advertising, broadcast TV and pay TV — with in-depth data on publicly reporting companies from 1993 through 1997.

DATA

With the U.S. pay TV industry making impressive advances near the end of that five-year period, the report provides a good historical perspective on the industry.

It starts out with some basics, noting that in 1997, cable-operator investments in acquisitions, plant upgrades and buildouts began to really pay off. Revenue for the operators tracked in the report rose 14 percent to $US27.9 billion, the third consecutive year of double-digit growth. At the same time, revenue per subscriber jumped 9.1 percent in 1996 and 6.5 percent in 1997, primarily reflecting expanded programming offerings.

Publicly reporting subscription-video-service operators



Source: Veronis, Suhler & Associates Inc.

More impressive, probably, were the gains in the U.S. direct-to-home satellite market. In the period from 1993 to 1997, revenues of publicly reporting DTH companies grew tenfold to $US2.8 billion.

The report also provides 1997 financial data on a whopping 469 industry firms, as well as company rankings by size, revenue growth and cash-flow margins.

The entire report is available for $US995. VS&A can be reached by phone at (1) 212-935-4990, or on the Internet at www.vsacomm.com.

THE PAY TV PAYOUT

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AsiaSat	SAT	NYSE	$17.00	$17.50	2.94	$22.00	$9.75
At Entertainment	ATEN	Nasdaq	$7.50	$9.44	25.83	$19.37	$3.87
British Telecom	BTY	NYSE	$158.00	$163.50	3.48	$168.43	$92.00
BSkyB	BSY	NYSE	$43.63	$49.75	14.04	$54.50	$35.50
Cablevision Systems	CVC	AMEX	$65.00	$64.25	-1.15	$71.00	$22.87
Cable & Wireless	CWZ	NYSE	$65.06	$60.75	-6.63	$67.00	$25.37
Canal Plus	CNLP	Paris	$275.87	$317.84	15.21	NA	NA
Com21	CMTO	Nasdaq	$26.00	$23.88	-8.17	$30.75	$8.37
Deutsche Telekom	DTEG	Frankfurt	$27.59	$26.73	-3.11	NA	NA
Flextech	FLXT	London	$12.45	$11.86	-4.71	NA	NA
General Instrument	GIC	NYSE	$32.88	$34.06	3.61	$41.00	$16.43
Grupo Televisa	TV	NYSE	$23.50	$26.31	11.97	$43.25	$14.87
Hongkong Telecom	0008	Hong Kong	$1.69	$1.70	0.30	NA	NA
Matav	MATVY	Nasdaq	$22.94	$24.00	4.63	NA	NA
Multicanal Part.	GLCBY	NAS	$1.88	$1.50	-20.00	NA	NA
News Corp.	NWS	NYSE	$26.75	$29.75	11.21	$33.50	$20.18
NTL	NTLI	Nasdaq	$79.75	$77.25	-3.13	$85.25	$30.62
NTT	NTT	NYSE	$39.63	$40.00	0.95	$48.81	$31.00
PanAmSat	SPOT	Nasdaq	$38.50	$39.06	1.46	$66.12	$26.50
Scientific-Atlanta	SFA	NYSE	$28.69	$32.63	13.73	$33.50	$11.75
Telcom Italia	TI	NYSE	$92.94	$95.25	2.49	$100.87	$53.00
TCI	TCOMA	NAS	$66.50	$67.38	1.32	$72.18	$28.37
Telefónica	TEF	NYSE	$138.38	$135.00	-2.44	$165.00	$93.62
Telewest	TWSTY	Nasdaq	$43.13	$41.50	-3.77	$47.37	$12.62
TV Filme	PYTV	Nasdaq	$0.44	$0.25	-42.86	$5.25	$0.12
UIH	UIHIA	Nasdaq	$37.63	$54.63	45.18	$66.00	$7.75

Source: Nordby International

FORUM

Survival Strategies in Latin America

BY MARY ANN HALFORD

As a television professional working in Latin America since the early '90s, I have learned to always "expect the unexpected." Until last year, growth expectations for the region's multichannel-television development were high.

In Argentina, cable penetration surpassed 50 percent of television homes. Brazil's subscriber base had expanded past 2 million homes, and the majority of industry experts were forecasting 4 million to 7 million subscribers by the year 2000. Mexico had shown signs of recovery after 1994's economic crisis. Both Sky Latin America and Galaxy Latin America's DirecTV had launched direct-to-home satellite services offering a growth alternative to cable development.

More and more companies were announcing plans to launch new channels or expand existing channel offerings in Latin America. The future appeared bright for all. Unfortunately, the events of 1998 and early 1999 dimmed this once-optimistic outlook.

As 1998 unfolded, the Argentine cable industry was involved in a consolidation of cable operators into two major MSOs. In order to fund the associated acquisitions, as well as manage growing expenditures, more emphasis was placed on reducing programming costs and eliminating channels.

In addition, the Argentine government imposed a 21 percent value-added tax on cable operators, which was ultimately passed along to consumers. As a result, churn rates increased as subscribers became increasingly dissatisfied with cable's higher prices and simultaneous reduction in services. At the same time, programmer relationships were frayed considerably following a year of intense negotiations.

When 1999 arrived, other new challenges surfaced for Latin American programming services. In January 1999, the Brazilian currency, the real, was devalued. Although uncertainty still remains as to where the real will settle, most recognize that the value of the currency against the United States dollar will decline by 40 percent to 60 percent. At the same time, Brazilian cable and DTH operators are asking programmers to accept payment for services at the real/dollar exchange rate on Dec. 31, 1998. While no agreements have been formally made, programmers acknowledge that they will have to respond constructively on some level, which potentially means a reduction in expected affiliate revenues.

Mexico has also experienced devaluation pressure in the past year, which may lead Mexican operators to ask for price concessions.

Venezuela, severely impacted by sagging oil prices, has been struggling economically for several years now, leading most operators in that country to ask for concessions or renegotiations in affiliate agreements. In Colombia, piracy continues to proliferate, despite persistent international pressure for the legalization and stabilization of the country's multichannel industry.

Needless to say, navigating in this environment is challenging. Yet, our successes and triumphs with the Fox Channels in the region have sustained our belief in the long-term future prospects for Latin America. In fact, our cable and DTH businesses are aggressively expanding throughout the region. At the same time, we are tempering our expectations for when that future will fully materialize.

And much like other leading programmers, we are dealing with the current reality in a manner that will build economic value for both the short and long term. How is this being done? Fundamental to the task at hand is a reassessment of current economic models.

Most multichannel programmers built services assuming that subscriber fees would make up the largest portion of projected revenues. However, a decrease in expected subscriber growth and increasing pressure on affiliate pricing is testing that assumption. While programmers have been developing advertising revenues since they launched channels in the early '90s, most have intensified this focus in the last two years.

HALFORD

Fundamental to the task at hand is a reassessment of current economic models.

Advertising revenues can be generated on both a panregional basis and a national basis, and while panregional revenues have grown, the general consensus is that the national advertising markets represent the greatest upside potential.

At the same time, there are inherent challenges to growing the national advertising-revenue stream. Leading cable operators also view national advertising as an attractive source of ancillary revenue, and many have developed in-house sales departments to capture these dollars.

Logically, many MSOs have resisted the attempts of programmers seeking to do the same, as they believe that increased competition will reduce current advertising prices and diminish future revenues. Furthermore, most operators believe that the programmers' low panregional advertising rates threaten their ability to sell competitively on a local basis.

In order to dissuade programmers from expanding panregional and national activities further, certain operators have even retaliated by blocking local commercials. While operator complaints regarding panregional advertising prices do have merit, blocking commercials is not an appropriate response. Operators and programmers must work together to find a common ground on which advertising revenues can be a benefit for both sides.

On the cost side, programmers are facing other challenges. All of the major operators are currently asking programmers to provide annual marketing plans and make significant dollar commitments up front to fund those plans. These requests throw into question how programmers and operators need to work together.

If operators seek to reduce affiliate subscriber fees, combat the channels' ability to generate advertising revenues on both a panregional and national basis, and request increased programmer marketing commitments, leading network groups will need to redefine their current working relationships with operators.

This redefinition will entail closer collaboration to demonstrate the value-added dimension of multichannel television to subscribers. In addition, operators and programmers have to work together to develop programming packages that will drive subscriptions among the C- and D-socioeconomic classes. Ultimately, however, operators will need to financially reward those channels that contribute most to subscriber viewership and retention.

Becoming a channel group that yields financial remuneration for its performance requires examination of another component in the pay TV-economic formula: programming investment. Aggressive and consistent investment in quality programming is critical to driving viewership and ratings. However, much like marketing costs, programming costs have escalated significantly in recent years.

Intense competition for programming among a growing channel base in the market has driven programming prices upward by between 30 percent and 50 percent. Many of these increases were negotiated several years ago when expectations for growth remained bullish. Given today's current economic realities, further price increases cannot be supported and channels need to reassess how much they are spending on programming packages.

In addition, programmers need to explore other avenues for sourcing programming, such as re-purposing shows from sister channels, co-production partnerships and advertiser-sponsored programming.

Lastly, programmers need to explore means for generating revenues by leveraging their on-air brand equity in off-air business activities. Potential avenues for exploration include licensing, merchandising and new media. In addition, programmers need to work with operators to determine if there are areas for partnerships and the development of other businesses. While there are no ready answers today, the current economic circumstances do compel everyone to start thinking more creatively.

Ultimately, it is vital to the health of the multichannel business that programmers with significant investments in the region maintain an underlying faith in the future.

While the current economic environment is uncertain, it is still reasonable to expect Latin American multichannel-home penetration to reach 20 percent to 25 percent of the region's 100 million television households in the early years of the next century. When that day comes, those programmers and operators who have taken collaborative and constructive steps to readdress the economic model during this period will enjoy great benefits.

Mary Ann Halford is senior vice president and general manager of Fox Kids Latin America and Canal Fox.

ONE ON ONE

Turner's Taskforce

JO DALLAS SPEAKS WITH JON PETROVICH

Turner Broadcasting System Inc. could be described as something of a Latin American veteran. It was one of the very first international programmers to operate panregionally when it bowed Cartoon Network in 1993. With more than 10 million subscribers, the channel is consistently rated the No. 1 panregional kids channel by the Los Medios y Mercados de Latinoamérica (LMML) study.

Since launching Cartoon Network, Turner has added three other channels to its Latino stable, including the 24-hour, Spanish-language news channel, CNN en Español. And, at a time when programmers are either canceling or postponing channel launches, Turner has decided to add yet another network to its Latino lineup this year: American Movie Classics.

There are some tough decisions to be made by programmers who are facing severe pricing pressure in Argentina and the recession in Brazil.

Jon Petrovich, the president of Turner Broadcasting System Latin America Inc. who has also overseen the news side of the Turner empire, adopts the no-nonsense style of CNN talk-show host Larry King when talking about the future. In a recent interview, he gave some clues on how he and his hand-picked senior management team will guard against the potential pitfalls.

DALLAS: Can you put Turner's Latin American business in the context of your international business?

PETROVICH: Turner Latin America represents a little less than a third of all of Turner International's business, revenue-wise. That's with the four channels, TNT, Cartoon, CNN en Español and CNN International.

DALLAS: What is the scenario for subscriber growth in Latin America this year?

PETROVICH: I think you are going to see flat growth in your key regions, Argentina, Brazil and Mexico. I think you are going to see some growth potential in Peru and other emerging countries, like Colombia. But I think the subscriber growth will be very modest over the next year, for sure.

If you look at the analysts' reports on Latin America over the last couple of years, they were more bullish than the reality. Programmers in Latin America are seeing downward cycles based on a number of events, from the [Brazilian currency] devaluation, to consolidation in Argentina, lost opportunities because of governments not moving fast enough, privatization issues, pirating issues.

If you took a historical look, there was steady growth with Turner in the marketplace over a period of years. Management at the time continued to think that this curve would continue to grow at the same levels. What they did not take into consideration is that you have cycles; you have up cycles and down cycles. I think that many programmers did not budget, or factor in, the down cycle.

DALLAS: What about the much-anticipated shakeout of channels in the region?

PETROVICH: I am amazed to see that programmers are standing firm, and amazed to see that there has not been a shakeout. I think that it based on the belief that this is a short-term problem and the rewards are going to be very good long-term. It has become Darwinism at its best.

Who is going to survive and stay in the market? If you look at companies the size of Turner and other major entities, you have to figure we are laying our revenue projections against something that is beyond 1999 and 2000. But we are being very careful as to how we project our numbers, program our channels, and to not make missteps at this critical period in time.

DALLAS: What is Turner's view of the attempt by Brazilian cable operators to fix their rates in the local currency, the real, and not the dollar?

PETROVICH: Obviously, we are sympathetic because they are our partners. We will hear them out, and we will try and work with them in ways that are business-like.

DALLAS: What about the pressure by cable operators in Argentina to reduce their programming rates?

PETROVICH: We were lucky. Because of good negotiation from our country manager, we are experiencing an increase. We did not walk away from this negotiation with the percentages that we heard were being deducted from the programmers. That is due to the strength of our networks and our ability to sit down with operators in a business-like way to explain our issues and negotiate a deal that makes sense to us and to them.

DALLAS: What rate reductions have other programmers experienced?

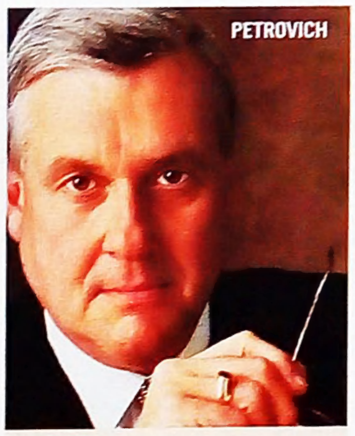
PETROVICH: I have heard it has been as high as 20 percent.

DALLAS: Which Turner networks have broken even and which ones have not?

PETROVICH: You don't see much reporting in the trades as to who is making money and who is not.

DALLAS: But we know for sure that Cartoon breaks even.

PETROVICH: Cartoon does quite well for itself, yes. Turner Latin America, you could probably say, breaks even or does a little better than breakeven. Cartoon Network and TNT do quite well,



JON PETROVICH

TITLE:
President, Turner Broadcasting System Latin America Inc.

BACKGROUND:
Joined Turner in 1986 after working 18 years at local and regional television stations in the United States. Worked extensively on the news side of Turner's business. Before assuming his current position, was executive vice president of CNN.

STATISTICS:
Married with two children, lives in Atlanta, Ga.

both on the cable side as well on the advertising side. CNNI has always done well because of the strength of the brand. CNN en Español — we are helping it along — has years on its business plan to show the revenue we will know it will garner. It is perceived as the top panregional, Spanish-language newscaster.

DALLAS: Tell me about your plans for the movie channel American Movie Classics.

PETROVICH: There is a strong belief that in Brazil and Argentina there is a viewing audience for this niche channel. We have, certainly, the library to support it. We think that this will be a nice complement to us in the region, playing off TNT, which is being perceived as more modern. It will truly be boutique; it is not for the masses. It is not a basic channel.

DALLAS: Does that mean pitching it as a premium channel?

PETROVICH: No, as a tier — as an extended-basic [channel]. Or we look at the possibility of doing deals on an exclusive basis in the marketplace, but that has yet to be decided.

DALLAS: Do the changes that you have made in Latin America's senior-management team represent a significant refocusing from an organizational and strategic point of view?

PETROVICH: We did a three-legged management change. We named a new senior vice president for Latin America, Jim Samples. His strength is his financial skills. He has an MBA degree. He understands business. I think there was a certain point when TBS was growing in Latin America when it was perceived as marketing and promotion. It was perceived as using our material and maximizing our assets. Well, it is now a business, and we have to run it as a business.

We also brought on board Barry Koch to run Cartoon Network. Barry, who ran research for Turner Entertainment domestically, brings the strength and knowledge of how to take good research information and turn it to our advantage in making Cartoon even better than it is today.

The third person is Rick Perez, who was our programming genius for TNT. What's happening with TNT is what we projected would happen. We are on course. It is a network that is now being perceived as a value not only by cable operators, but also by the advertising community. ■

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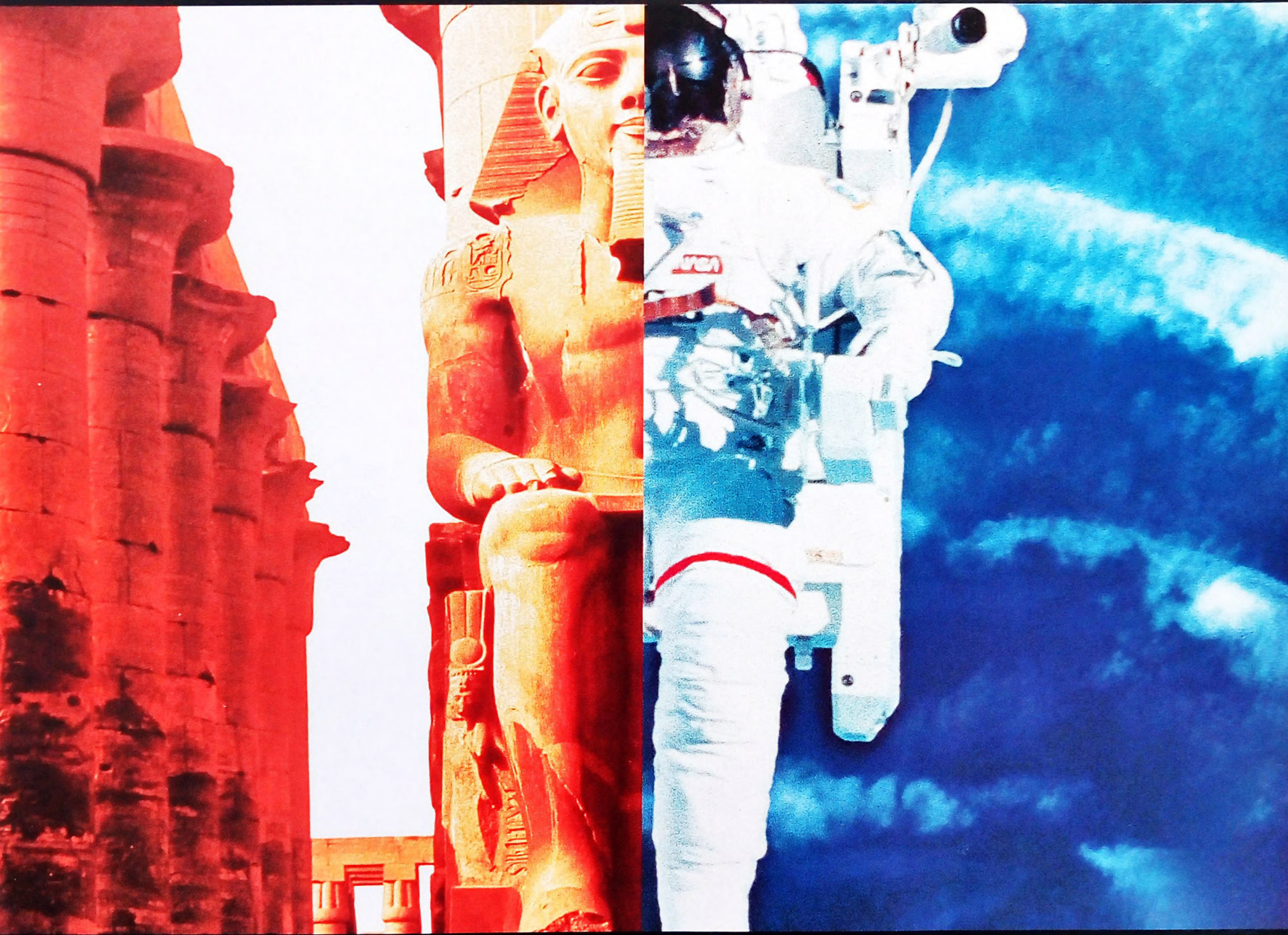

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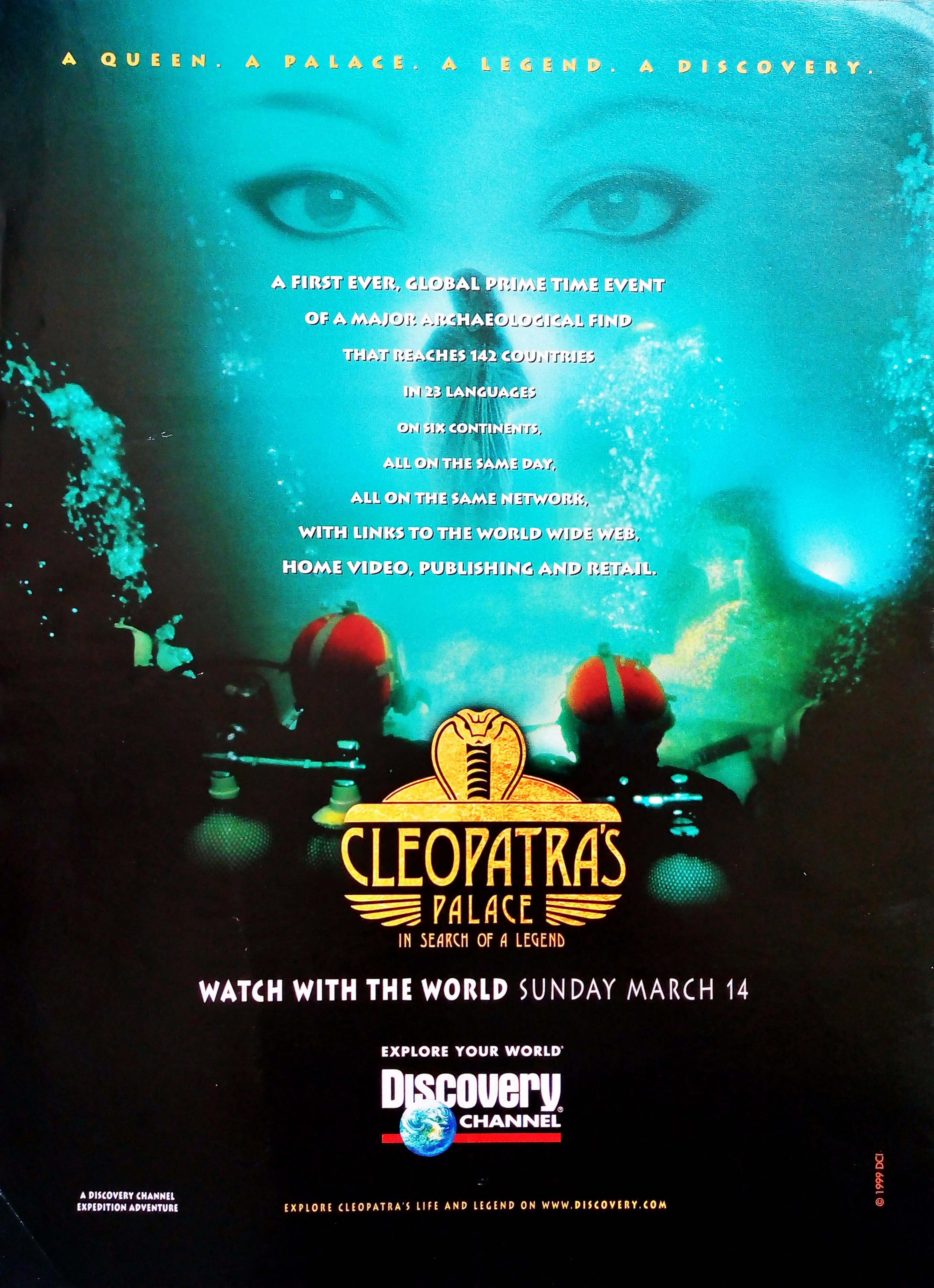
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